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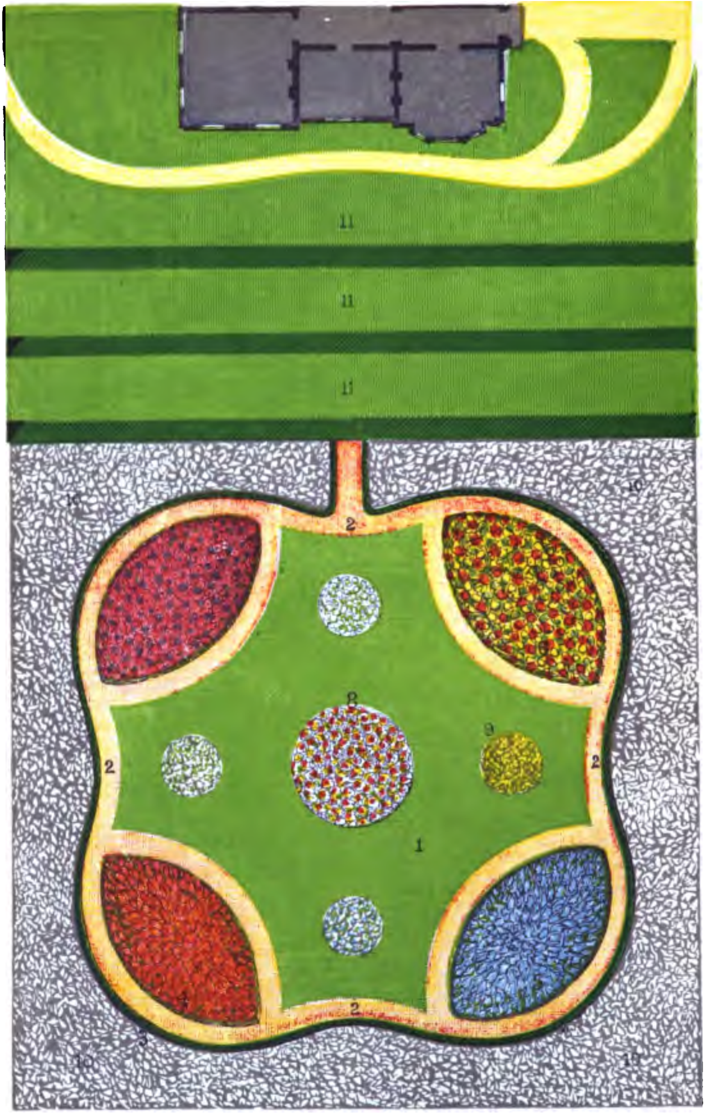
THE BULB GARDEN

SAMUEL WOOD



No. 1. Grass Lawn. 2. Gravel Paths. 3. Box Edgings. 4. Bed of Tulips. 5. Bed of Squills. 6. Bed of Ranunculus. 7. Bed of Anemone. 8. Bed of Narcissus. 9. Four small Beds of Crocus. 10. Border all round, with Lilies, Gladiolus, &c. 11. Grass Terraces, rising nine feet from the Flower Garden.

THE

BULB GARDEN

OR

HOW TO CULTIVATE BULBOUS AND TUBEROUS-ROOTED FLOWERING PLANTS TO PERFECTION

A MANUAL

ADAPTED FOR BOTH THE PROFESSIONAL AND AMATEUR GARDENER

BY

SAMUEL WOOD

AUTHOR OF

'GOOD GARDENING' 'MULTUM-IN-PARVO GARDENING' ETC.

With Coloured Illustrations, Plans of Gardens best suited to the Cultivation of Bulbs, and numerous Wood Engravings

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PREFACE.

THERE were two or three reasons which induced me to undertake the present book. One was the real want of such a work sufficiently modern and in sufficient detail to serve as a manual adapted alike to the amateur and the speculative professional man.

Another was a desire to show the advantages attached to this particular class of floriculture over more modern styles of furnishing the flower department, as being less expensive and more certain, and far better suited to the majority of second-class gardens.

A third, was the hope of giving additional stimulus, if possible, to this more beautiful class of gardening, by offering an exposition of plain and, I may say, reliable treatment, such as should lead to the definite results always looked for, but often—for want of knowing 'how to do it,' and when to set about the work of preparation of the soil, and when to plant,—not attained.

A fourth inducement to write this book was the stimulus I received from the very flattering terms expressed, both by the press and the public in general, on my 'Good Gardening'—a work highly eulogised for its plainness, a feature I have endeavoured to maintain in the present volume.

In this work will be found some practical ideas suggested in reference to permanent screens for the flowers—the raising of new sorts—how to grow this class of flower-roots for the trade here as well as they can be grown abroad—the nature of the diseases bulbs are subject to—and other useful information of much importance.

For indoor floral decorations in homes of taste I need scarcely remind my readers that the class of flowers of which the present work treats is peculiarly adapted; and perhaps for variety and beauty of form and colour no other is more capable of gorgeous combinations in the ornamental flower basket.

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WOODCUTS.

⁂ *For most of the Woodcut Illustrations of the Bulbous plants inserted in the text the Author is indebted to the kindness of the eminent firm of* JAMES CARTER & CO., *the Queen's Seedsmen, of High Holborn.*

N.B.—As regards the ornamental 'tailpieces,' though some of them may be admired for their beauty, they are not to be looked upon as having any reference to the letterpress.

THE
BULB GARDEN.

PLANS FOR BULB GARDENS.

ONE illustrative idea is unquestionably better than a whole page of letterpress description; this more especially refers to plans for laying out and the making of flower gardens. I never could bend my mind to whimsical and intricate ideas for making gardens. Plans, especially for this purpose, should be simple, yet possessed of boldness and beauty.

May I venture to say, that in the accompanying plans for gardens for growing Bulbs, I have introduced what is of the simple and yet useful kind, easy to be made, and easy to manage, with good effects as to results?

In Plan No. 1 (*Frontispiece*) will be found an idea at once effective, with or without the 'grass terraces,' fit for amateurs of all classes. This, fully carried out on a large scale, and the beds and borders well planted, would produce an effect not easily realised by imagination. Some will object on the ground of expense; this, however, is to a great extent imaginary, for in some places the thing is more than half done by nature, and the planting of such a garden is no more expensive than that of any other kind of flower garden.

There is no doubt that the work of making this garden should be conducted by those who well understand it. I am not speaking so much as regards the laying out as of the preparation of the soil. All bulbs require a tender-natured kind of soil, with a large proportion of sand. First deep-dig the whole over, removing every impediment out of the soil, as roots of trees, stones of a large size, &c. This done, lay out the plan, cut the walks out, plant the box edgings, lay the gravel and the turf. All this should be done during the months of August and September, ready for planting the bulbs in October (see 'Planting,' in the body of the book).

Plan No. 2, which is fully described on page 8, although more suited for professional growers of bulbs, will, I have no doubt, be found one of the most useful ideas for the amateur also, and will prove a feature in bulb-growing most effective and useful, forming beautiful promenades, opening out new scenery at each avenue. I know of no more striking nor imposing effect, nor one of more real utility, than will result from this idea if well executed. As in the case of Plan No. 1, it should be laid out during the months of August and September. The borders and hedges should run east and west, so that the full midday sun may be prevented from falling upon the tulips, ranunculus, and anemones, and all such delicate flowers, which should be planted behind the screens; while on the south borders more robust kinds may be planted. For professionals this plan will be found most acceptable, as it may be profitably utilised for other purposes as well as for growing bulbs for sale.

I would remark that these plans are not introduced merely as visionary notions, but as facsimiles of real facts, and what can be easily and fully accomplished by those who desire to carry out bulb-growing as it should be. I am fully aware of the disheartening effects upon many who have wished and tried to get a good collection of bulbs of the failure of their efforts, consequent in most cases upon a deficiency of means for permanently screening these splendid spring and early summer flowers, and also upon their general bad management. All these difficulties I hope I may have removed by the Plan No. 2. By this permanent live hedge-screen method of providing for the protection of flowers when in bloom, I hope to induce some to try again what can be done in this way. If, however, at any time they should decide upon giving up the cultivation of bulbs, these screens will then be found useful for a common promenade flower garden, or even a good vegetable garden, affording infinite advantage for early and late crops.

THE TULIP.

THE TULIP FAMILY consists of several species, several classes, and numberless varieties. The tulip is now exciting a revival of interest in itself, after a lapse of many years' failure of the prominent place it once held in the public mind. We never expect to see the time arrive when florists' tulips will be worth so much individually as they were before so many other ornaments of the garden found favour in the public mind as is the case now. Still we hope this good and grand old flower may yet, to some extent, recover its former position in our gardens; there can be little or no reason why it should not do so. Some object to tulips on the ground of the shortlived glory they possess, others that they (the choice florist flowers) are too expensive; but I am about to show that neither the one reason nor the other will account for the fact that this grand

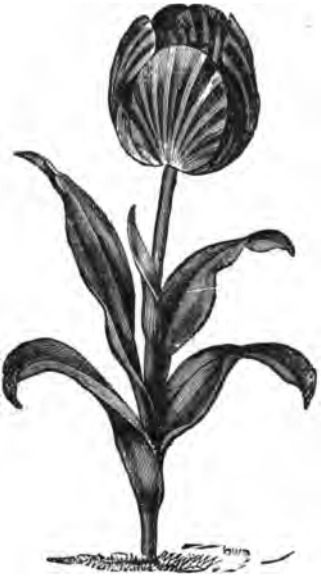


Fig. 1.
THE SINGLE TULIP.

flower is not found in so many gardens as it should be. In the first place, that it is shortlived as a flower I admit, but on the whole this is an advantage rather than otherwise, because wherever beds of bulbs are grown some pretty annuals may be sown or planted to succeed the tulip flowers, thus affording a diversity which all must admit to be good. In reply to the second objection, taking all things into consideration, they come cheaper in the space of three years than most other bedding plants. For instance, suppose a bed takes 200 tulips to fill it, at, say, 1*s.* each, the same bed would require 600 ordinary bedding plants in the course of three years, at, probably, £3 per 100, that would be £18; the tulips would cost £10, with an increase of £5, value of the offsets during the time, and three changes of some choice annual on the same bed, and a long succession of flowers, and not half the trouble attending them as there is with most choice bedders through the winter months. The tulips may be left in the ground from year to year, or taken up and dried off as soon as the flower-stems die off yellow.

THE SITUATION OF THE BED.

This is more a matter of fancy than choice; the tulip is not a tender plant at all, still a sheltered aspect, open to the south or south-west, is preferred. The chief thing wanted is not sun, but a sheltered spot where the strong winds cannot get at them; in another place I shall propose a plan for guarding the tulip when in flower from high winds. A flat bed is preferable to a sharp incline. It should not rise above the surface more than three inches after the soil has settled down.

THE PREPARATION OF THE BED.

The soil best suited to the successful cultivation of the tulip is good friable (tender) loam, that is, the top spit of garden soil, or good old garden soil. If the soil is not good naturally it must be made so by artificial means; for instance, if the soil is naturally heavy and close, without any sand, some clean sharp sand must be added liberally, and also a good portion of fine peat and old decayed stable manure. These will temper the heavy soils so as to suit the tulip. These composts should be dug in, and well mixed with the natural soil. The bed must be dug two spades deep, and plenty of old rotten dung turned into the bottom regularly, and the soil of the bed well broken. This should be done during the month of October, before planting the bulbs in November. If the soil is of a very poor, light nature, then add some good, rich, adhesive maiden loam from a pasture or common, and fat rotten dung, and work it into the bed as before. On a fine day, from the 1st to the middle of the month of November, put a thick layer of sand (clean pit sand) on the surface of the bed, and work the bed over with a hoe three or four inches deep, mixing the sand with the soil; then rake it over with a coarse rake to break any lumps of earth that may be in the bed, finally raking the surface smooth.

PLANTING THE TULIPS.

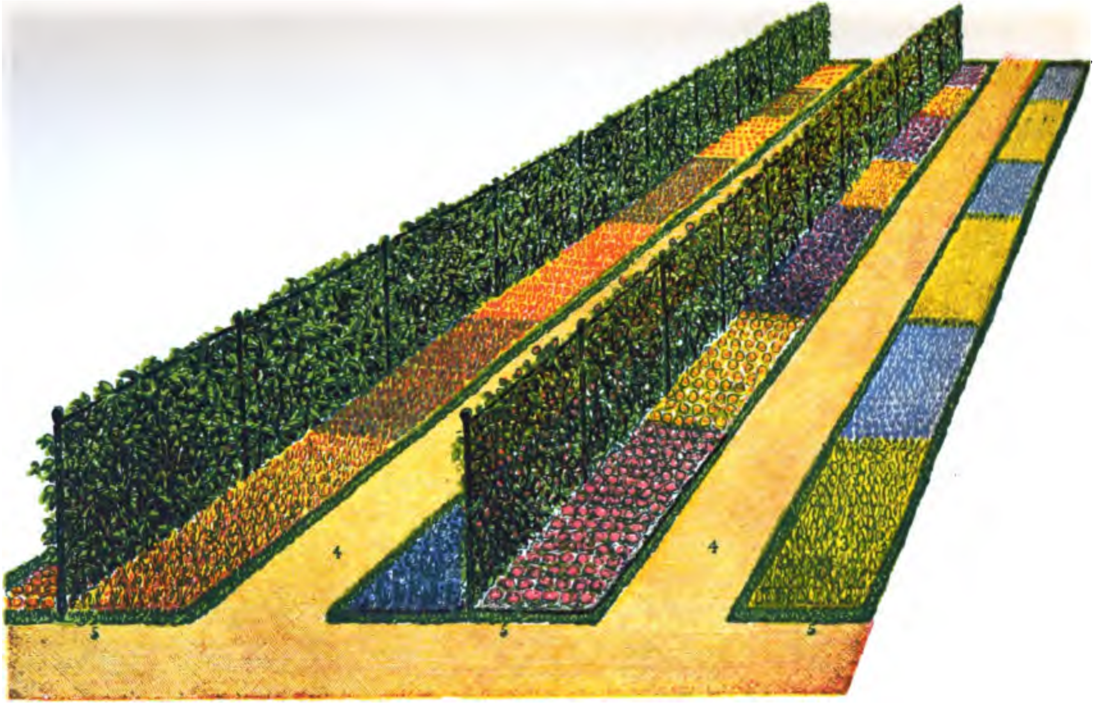
The bed being ready, take a five-foot measure, mark the surface of the bed by gently pressing the rod into the soil in lines eight inches asunder across the bed, which should be four feet wide. This ruling of the bed is to form lines in which to plant the bulbs. They should be planted six in a line across the bed, with a trowel—a small garden trowel is the thing. The person planting should have the bulbs at hand so as to be able to put the bulb into the hole as soon as it is made. A second person should follow with a box of silver sand, and as each row is planted put a small handful on each bulb. The bulbs should be planted not less than five inches deep from the bottom of the bulb, and every hole should be of the same depth. When the bed is planted, carefully chop the soil in with a light hoe, so as to fill the holes with the compost of the bed, and, finally, rake off the coarse stuff from the bed, but not raking it down too fine, for, if this is done, with some soils the surface of the bed will become bound down with the heavy rains during the winter months, and finally be rendered impervious to the sun and air. Before the planting is begun the boundaries of the bed should be defined, so as to know how near to plant the outside bulbs; and after all the bulbs are planted, and the bed raked off, the sides of the bed should be neatly cut down (if a straight bed) and the pathways raked to make all look neat. If there is grass or box edging this will not be required.

THE SUBSEQUENT TREATMENT.

As soon as the tulips appear well above ground, on a fine day, take a narrow, light hoe, and go over the bed, moving the surface an inch or two deep, this will let in the sun and air. If the place is infested with slugs sow some fine flour lime over the bed—slight sowings will be sufficient at a time—but the opportunity to catch the slugs out on the surface should be watched for, and then sow the flour lime over them, and if only a grain or two falls upon them it will be sufficient to kill.

SHADING THE FLOWERS.

As the flower-buds begin to open it will be necessary to afford them some kind of protection from the sun's rays, for the preservation of the colours as well as to prolong the flowering season. Those florists who commence growing the tulip for exhibition I advise to plant protecting screen-fences, composed of beech or pillar roses. The beech fences make excellent windbreaks, and afford a nice shade from the sun's rays during the summer, and do not obstruct the light during the winter; these beech hedges may be of any desirable height, and planted in a single row, may be clipped quite upright, and not more than six inches thick. These hedges are much used by nurserymen for breaks, and they look exceedingly neat, and of a lively green. A hedge of these, or roses trained on coarse



PERSPECTIVE PLAN OF FLOWER GARDEN FOR BULBS.

No. 1. Wire Fence, covered with Climbing Roses. 2. Wire Fence, covered with Beech, or the Beech will do without the wire; in each case are for wind breaks. 3. Flower Borders filled with Bulbs. 4. Gravel walks. 5. Box Edgings.

wire netting, should be not less than seven feet high, for the purpose of affording shade over a four-foot bed. If these hedge-breaks are to be of beech, and are wanted at once, the plants may be purchased of the desired height; but if they are to be of climbing roses, the Dundee Rambler, Félicité Perpétué, Ayrshire Queen, Scandens, Grevillia, or Seven Sisters' Rose, and Rosa Multiflora are suitable, as they are most rapid growers, and will cover a trellis sufficiently high for a shade in one season if good strong plants grown in five-inch pots are chosen. There is nothing can surpass in beauty the effect of the trellis roses, when in full flower; they are at once ornamental and beautiful in the extreme, and as breaks, or shades, to beds of tulips, ranunculus, anemones, pansies, auriculas, &c., nothing can be better next to the beech. The beech, of course, has much in favour of its adoption, being less trouble to keep in order, but roses are more ornamental.

Some gardeners use shades of canvas stretched on a frame fixed over the bed, which may be preferable, on account of warding off heavy rains from the full-blown flowers. A frame of wood or iron should be made for the purpose, with a slight span roof; for instance, supposing a bed to be five feet wide, a row of stakes should be placed up the middle, at, say, nine or ten feet apart, taking care to have a strong one at each end, and as many shorter stakes will be required on each side of the bed. The covering should be high enough to admit of seeing the flowers without lifting the canvas. The stakes should be of yellow deal, and of about one inch and a half square, on the top of each stake there should be a spike of stout wire long enough to come through the rails to hold them on; there should be one rail along the middle row of stakes to form the ridge, and one on each side to form the span; there should be one slight rafter across the bed from stake to stake, these will render the frame rigid. The shading may consist of thin, unbleached, strong calico tied on the lower rails. The frame may be made of thin iron, painted. The shades should be removed occasionally, and altogether as soon as the beauty of the flowers is over. Tulips, ranunculus, anemones, and auriculas will be much benefited by these sun-shades, and the flowering season considerably protracted. Auricula flowers melt away in a hot sun, and in a few hours the beauty of the flower is gone.

HOW TO PRODUCE FINE TULIPS.

As soon as the flower-buds begin to form, one or two good soakings of liquid manure should be given them, one at the time noted above, and another when the flower-buds are half grown. This liquid manure may consist of a bushel of sheep's dung put into a tub holding a hogshead, and fill the tub full of soft water; let it stand for a week, frequently stirring the contents; then dip out and soak the ground where the tulips, ranunculus, anemones, and auriculas are growing.

TAKING THE TULIPS UP.

As soon as the foliage turns yellow after flowering, the bulbs may be taken up, dried, and stored away. They should be carefully turned out of the ground with a light fork, and allowed to dry for a few hours in the open air, and then taken into a dry, airy, light room, and laid on clean, dry shelves, stems and all as they are taken up. At the end of a fortnight, go over the bulbs, trim them off, and divest them of every bit of rubbish. The windows of the room should be always open. The room should be toward the north, so as to get abundance of the cool north breezes during the summer. This will prevent the bulbs from sprouting before the time of planting. The offsets should be planted by themselves for a year. (See 'Planting,' page 7.)

RAISING NEW VARIETIES OF TULIPS.

In raising new varieties there is an unlimited sphere of action and a wide field for experiment, far beyond the labour necessary for common culture, and if the proper and requisite steps are taken good results must ensue. To succeed well it is necessary to select those flowers to bear seed that possess bold features and clear colours. The ground colours should be white or clear yellow. When the seed is ripe, which is indicated by the seed-pod becoming light brown, cut off the pods and put them in a seed-pan, or anything capable of holding them, and expose the pods to the sun until they open, when the seed may be taken out and thoroughly dried. The light seed may then be dressed out, and the good seed put into air-proof bags, until the end of September or beginning of October, when it should be sown.

SOWING THE SEED.

It is best to sow the seed in wide seed-pans, 13-inch diameter, or deep boxes. In doing so, first prepare a good soil, composed of maiden loam one part, leaf mould one part, and silver sand one part, well mixed and sifted through a $\frac{3}{8}$ or $\frac{1}{2}$-inch mesh sieve. In the bottom of the seed-pans, or boxes, as the case may be, first put a good layer of broken potsherds, then on this place some good, large pieces of slate, forming a floor; on this put the sifted compost, filling up to within half an inch; then shake the soil down, and press it moderately firm with the ends of the fingers into the pan; make level, and sow the seed over the surface moderately thick, and cover the seed half an inch or three-quarters of an inch with the same soil, and set the pans in a cold pit or frame; use but little water at first, merely keeping the seed slightly damp. Air must be given. The seedlings may remain in the seed-pans, or boxes, until the following autumn, or until they die down, when they may be taken out and dried off and treated as mature bulbs. Most of these seedlings will flower within three years, and some new varieties may be looked for when they break into colour, as at first they show merely one colour, and are termed mother tulips, or 'breeders.' These gradually break up into various shades of fine colour, with white or yellow grounds, on which are laid violet, cerise, crimson, scarlet, rose, and yellow, &c., in a variety of forms and shades. When the seedlings, or breeders, break into colours they are called 'fine,' 'superfine,' or 'rectified,' which distinguishes them as good, very good or superior, and perfect, and enhances the real value of a tulip accordingly as the quality is indicated by the term. It requires a person to be well acquainted with what are considered the 'points' of a good tulip, to be able to judge of the qualifications necessary to render it perfect. First, it should be of a good shape, perfect in form; secondly, it should possess a clear white or yellow ground; thirdly, whatever the colours are they should be well defined, and laid on in a regular 'feather,' 'flame,' or 'flaked' fashion. The perfection of a tulip depends upon these qualities. The disposition of tulips is to continue to change for the better if of a good strain; therefore, let the person disposed to speculate on raising new tulips take the precaution to select none but good shaped and good coloured sorts to bear seed. Some curious and extraordinary kinds might be produced by fertilisation or hybridising, i.e. crossing one kind with another by dusting the stigma of the kind to bear the seed, with the pollen from one whose desirable properties are wished to be combined with the colours or shape of the one to bear the seed.

THE RANUNCULUS.

THERE are many species of Ranunculus, and numerous varieties. If we look into nature with a critical eye we see much beauty in the common crowfoot, or 'buttercup,' as it is called. The beautifully cut leaf and the deep rich yellow of the flower are not surpassed by any cultivated species. Then there are the exquisite little double white aconitifolius and parnassifolius, both fine, hardy, herbaceous garden sorts. The 'Double Persian,' Scotch, and Turban have flowers coarser and larger than the other two, but none can equal the PERSIAN for exquisite shape, diversity of colour, and beauty. It would be quite impossible to adequately describe the varied character and tints of colour of this family. A bed containing five hundred roots of the best mixtures, if good, as I have had them from the firm of

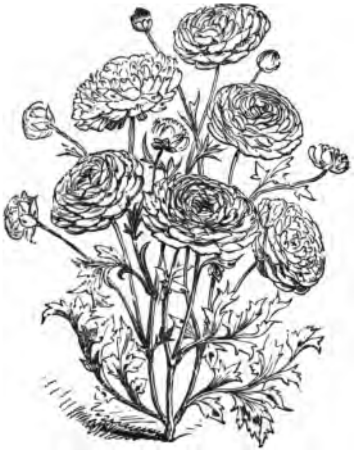


Fig. 2.
DOUBLE PERSIAN RANUNCULUS.

Krelage & Son, of Holland, cannot fail to elicit from all lovers of good flowers a token of admiration. To grow the ranunculus well, good ground is necessary.

THE SITUATION OF THE BED.

The well-doing of the ranunculus depends a great deal upon where, as well as in what kind of soil it is grown. The ranunculus is fond of a good, adhesive, maiden loam containing sand. When the bed in which the ranunculus is to be planted is not of this kind of soil, it must be made as much like it as possible by artificial means. In no case plant the ranunculus in a poor, light-textured, sandy soil. If the bed is of such a nature, take half of the soil out, and carry it to some other bed, where crocuses, ixias, oxalis, etc., are to be planted, and then make up the deficiency with good, adhesive, maiden loam, rotten dung, and some clean pit sand. To grow the ranunculus really well, it is absolutely necessary first to excavate the bed 15 or 18 inches deep, removing the whole of the soil, turning it out right and left of the bed; then put a six-inch layer (well trodden) of good old cucumber bed, or decayed stable, manure; then turn in the soil on the layer of dung. After which, work in some pulverised manure, maiden loam, and sand, well mixing the whole ready for planting. This work should be done six weeks or two months before planting, so that the soil may get firmly settled down before the roots are put in—a step of the most vital importance in ranunculus growing; it is even necessary to tread the soil of the bed where the roots are to be planted to make it sufficiently solid for the roots to penetrate. It is absolutely requisite that the soil should be of even quality, and distributed equally over the whole bed, so as to get an even growth. The best situation for a bed of ranunculus is a west or full south aspect; this situation will produce early flowers, but they will not continue half so long in bloom as when a cooler aspect is chosen for the bed. I am aware there is often no choice, and unsatisfactory positions have to be utilised; when this is the case, and the aspect is not good, some temporary shade should be afforded the bed for a few hours during the hot mid-day sun, so as to protract the flowering season if possible.

PLANTING THE RANUNCULUS.

Some persons plant in the autumn, and some in the spring; but I think the first week in February as good a time as any for planting the ranunculus.

On a fine dry day, when the bed is in good working condition and will admit of being raked, proceed to work over the surface of the bed with a coarse rake, and draw off any stones or coarse soil, leaving the surface fine. Then mark the bed with a straight-edge, at intervals of six inches across, and with a light half-moon hoe draw slight drills two inches deep. Proceed to plant the roots four inches apart in the drills, pressing the tubers into the bottom of the drills, crown uppermost; then strew a good sowing of clean sand along each drill over the roots, and with the back of a rake draw the soil on to the planted roots, filling the drills quite full, and gently press the soil to the roots with the rake, and finish trimming up the bed, leaving all neat and tidy.

SUBSEQUENT TREATMENT.

As soon as the ranunculus is well above ground it will be found that the soil along the drills is loose, this is caused by the roots themselves having swollen and raised the earth; this being so, take one drill at a time between the feet and tread each row carefully, keeping the feet as close together as possible without treading on the plants; this will close the soil firmly about the plants. If the weather is dry, go over the bed, before treading the rows, with a light hoe, and hoe the surface; when you have trod the drills, give the whole bed a good soaking with water, using a heavy rose, this will settle the soil nicely about the roots, and prove beneficial to the flowering.

As soon as the ranunculus shows flower-buds, give the whole bed one or two good soakings with liquid manure: this may consist of sheep's droppings put into a tub and mixed with water, as recommended for the tulip (see page 10). Any suitable liquid manure may be used; these liquid manure waterings will considerably help to develop fine large flowers and give strong roots.

TAKING THE ROOTS UP.

As soon as the flower-stems die off yellow the roots may be taken up. This is best done with a small, light, steel digging fork, carefully turning the tubers out and picking them up, when they may be carried to an open and airy room, where they can dry off. Drying the roots off thoroughly is most important, for if damp remains in them when they are put into bags or boxes to keep them until next planting season arrives, they will mildew and rot; therefore dry them well.

THE ANEMONE.

THE Anemone is even preferable to the ranunculus, inasmuch as the anemone accommodates itself to every style of gardening, and every situation, and nearly all kinds of soil. There are few, if any, classes of bulbous plants more beautiful than the anemone. It is suited for permanent beds, borders, and pots, and may be had in flower nearly all the year round. It is fine for cut blooms, and, as a family, surpasses most others in brilliancy of colour and beauty of character. It is capable

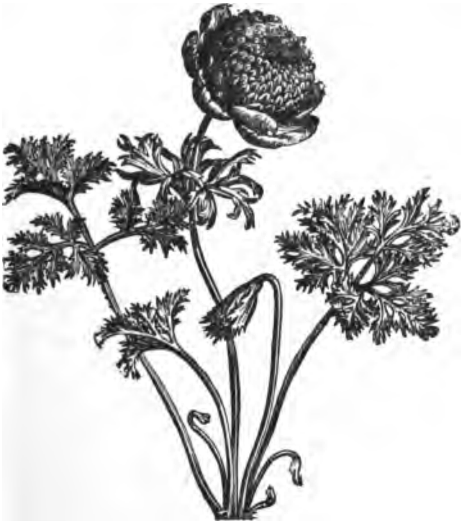


Fig. 3.
THE ANEMONE.

of change of character to a considerable extent from seed. The Anemone Coronaria, or crown-flowered, both double and single, is the most popular. The double contains infinite and most splendid varieties. Nothing can surpass a good bed of these.

THE SITUATION OF THE BED.

The remarks relating to the ranunculus will apply to the anemone (see page 15). It is rather more hardy than the ranunculus, and a moderately cool aspect is preferable to a full south dry one, when there is no other choice. A hot, dry aspect is the most suitable place. It is advisable by all means to plant the roots in the autumn, the end of October or the beginning of November.

THE SOIL, AND PREPARATION OF THE BED.

The anemone differs considerably in disposition from the ranunculus. Although the anemone likes good soil, yet if very rich it does not suit it, as it drives the anemone too much into leaf. The bed should be of good maiden loam, from a pasture or a common where cattle run, and containing some sand. If the natural soil of the bed is heavy, add a good portion of good peat and fine sand; if of a poor, light nature, add some adhesive maiden loam and a little very old decayed manure from a hotbed used the year before, and let it be well distributed and incorporated with the top spit of the bed; but there is nothing suits the anemone so well as a nice, light, free maiden loam, this should be added to the bed, and worked in at the time of planting. Hence the difference between the preparation of the bed for this and the ranunculus. It is only necessary to prepare the bed for the anemone the same day it is planted, by digging it over one spade deep, obtaining a fine surface, and at once drawing slight drills one inch and a half deep, and then planting.

PLANTING THE ROOTS.

The size of the root has something to do with the flowering. Old large roots are comparatively worthless. Three-year-old roots from seed are no doubt the best, and these will flower to perfection. When the roots get large, they should be broken up into small crowns, which will be found in numbers on a large old root. Break these off into small, clean, single pieces, and plant them in the drills, as is done for ranunculus. It is not good policy to plant anemones too deep. Perhaps the best plan is to mark the bed with a straight-edge into lines, then take the roots and press them into the surface of the soil just deep enough to cover the crown of the root. This is a speedy and good way of doing the work, many good gardeners practise it. As soon as the bed is planted—which should be from October until March, the autumn being preferable for early flowers, but the end of February is perhaps the best time of all for planting the Double Anemone—the surface of the bed should be drawn over with the back of a rake, to close the earth in upon the newly-planted roots. The roots will soon commence growth, and show themselves above ground. The Single Scarlet Anemone may be planted as early as the end of September to give flowers during the winter.

WATERING THE ANEMONES.

When the roots are planted late, sometimes dry weather follows. When this is the case, the beds may require one or two good soakings with water; but it must be ever borne in mind that one thorough saturation is far better than three mere surface sprinklings that only go one inch into the ground, affording no benefit to the plants. If the ground is poor, one good soaking with liquid manure, as soon as the flower-buds appear, will prove beneficial in promoting fine flowers, and also a protracted flowering season.

TAKING THE ROOTS UP.

As soon as the flowering season is over, and the foliage of the anemone dies off dead yellow, the roots may be at once taken up, dried, and then removed to the dry store-room, as directed for the ranunculus, tulips, &c. It is a good plan to separate the large roots at the time of taking them up, breaking them up into small crowns as directed under the head of 'Planting.' A light fork is the best tool to take the roots up with, turning them out on the surface as you would potatoes. In some wet seasons the anemone is very apt to continue growing instead of ripening off; when this is the case, a few hoops should be set over the bed, and some canvas so laid over as to keep off the wet until the roots give up growing, and thus compel them to die off. Every care must be taken with these and the ranunculus to preserve them from damp during their storage.

RAISING NEW VARIETIES.

Single and semi-double anemones bear seed plentifully, when ripe it should be carefully gathered. Its ripeness is indicated by its becoming floccy or flossy, i.e. appearing like wool or cotton unmanufactured. Gather the seed when in this state on a dry day, and finish drying it off thoroughly on a sheet of paper or any other convenient article; then put it into paper bags and keep it dry until March or April, when it may be sown.

SOWING THE SEED.

The seed of the anemone and ranunculus is unlike most other seeds, as I have before observed; it has the appearance of rough cotton or the floss on the cotton pod. It is very troublesome to separate for sowing evenly, and to be done effectually it must be picked to pieces by hand, and then placed upon the surface of the bed, or seed-pan, bit by bit as best you can, to distribute it as evenly as possible, and then cover it a quarter of an inch deep with fine light soil. The seed may be sown on a warm border, or in large, deep seed-pans, and kept moderately moist until it is up. Many of the seedlings will flower the first season, and all of them the second season, after sowing;

many new, and probably some novel varieties will arise from these seedlings if the seed has been saved from a good variety.

THE ANEMONE FULGENS.

This anemone is a single variety, most brilliant and effective in a bed, but very scarce and of a high price at present; a good illustration of it has appeared in a periodical called 'The Garden' for 1877. The plant is quite hardy, and if well planted will last for years. The bed should be well prepared previous to planting; let the soil consist of good mellow loam, with sand, and a good proportion of rotten manure well worked in a full spade deep. If the subsoil is inclined to be wet and cold, the best plan is to dig a spit clean out of the bed first, turning it on one side, then dig another spit out and carry it away, and

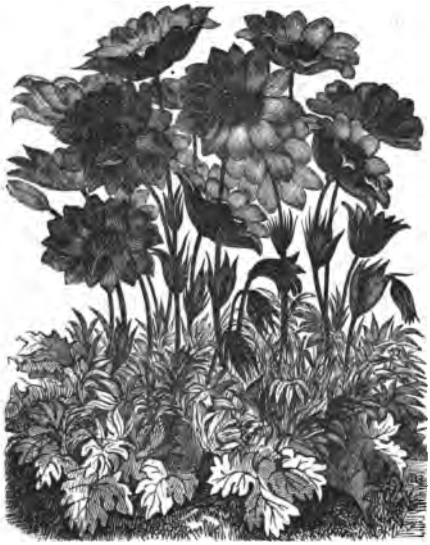


Fig. 4.
Anemone fulgens.

filling the space with sods of rough peat and leaf-mould, will ensure free drainage; on this, fill in with the compost above, in which plant the roots. The planting may be done during the months of September and October. As the roots may remain undisturbed for several years, they should be planted six or nine inches asunder every way, or they may be treated as the double varieties.

THE ANEMONE IN POTS.

The Anemone hortensis, or Garden Anemone, both single and double, is exceedingly useful grown in pots for winter and early spring use. The cultivation of the anemone in pots is very easy. Take some five-inch pots—in the month of September, October, or November, according to the time the flowers are wanted, the first will flower mid-winter—put a few crocks in the bottom of the pots, and then fill the pots up to within two inches, making the compost moderately firm, on this plant two or three nice rounded three-year-old bulbs; do not plant large old roots under any circumstances, these never give half so many flowers as medium sized bulbs. If four-and-a-half inch pots are used, or what is called small forty-eights, one good bulb is enough in each pot. When the bulbs are planted, place the pots in a cold frame. Do not give water to the bulbs until they have made a start, when a little may be given, and as they advance in growth give water more liberally. When anemones are grown in pots, they are very apt to get mildew. To prevent this add a small portion of sea-sand to the soil used for potting the bulbs in. If no such sand can be had, a very diluted liquor of ammonia may be used to water them with, or dusting the foliage with powdered sulphur, and washing it off a day or two after. As soon as the anemones begin to show the flower-buds, they may be removed from the frames into the conservatory or greenhouse, where they will continue to flower for some time. The Scarlet Anemone is most useful and brilliant for pot-work as an early flower. The Anemone hortensis is also good for this purpose, possessing good qualities and giving plenty of star-like flowers.

VARIOUS ANEMONES.

Anemone nemorosă, or the Wood Anemone, is a very useful thing even in pots for very early flowers; but how charmingly beautiful it looks in flower borders in a shady place. This plant lights up the sombre of the underwood, and gives early life there. It may be had for nothing in some woody localities, and may be easily transferred to our gardens during the summer or early autumn months, and planted thickly where desired; it may remain undisturbed for years.

Anemone Apennina is a charming species, and is very useful for early work, producing sky-blue flowers, which are comparatively large, and useful for cut-flowers. It is quite hardy, and may be planted in the open ground, in sandy soil. They may also be planted on rockwork in the shady cavities where a good portion of soil can be afforded them. It also makes a neat and lively edging for shady borders, planted in a single row.

THE HEPATICA.

The Hepaticas are of the same order as the anemone; they are too well known to require any description here. One thing I may remark is, that the hepaticas should remain undisturbed where they are planted if they are intended to be permanent objects for some years. There are single and double blue varieties; the double blue is scarce. There are also single and double red, and white, which is very scarce. They all prefer a sandy soil, but will grow in almost any kind. All the hepaticas are most excellent edging plants, and form very early and gay borders; they also form very pretty objects in pots for the conservatory. Small plants of the common red and blue may be had from 6*s.* to 9*s.* per dozen.

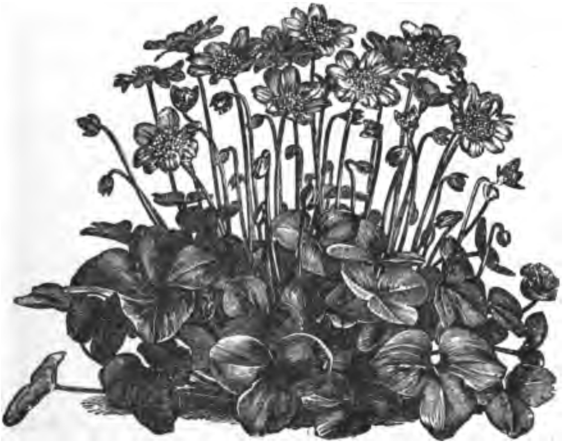
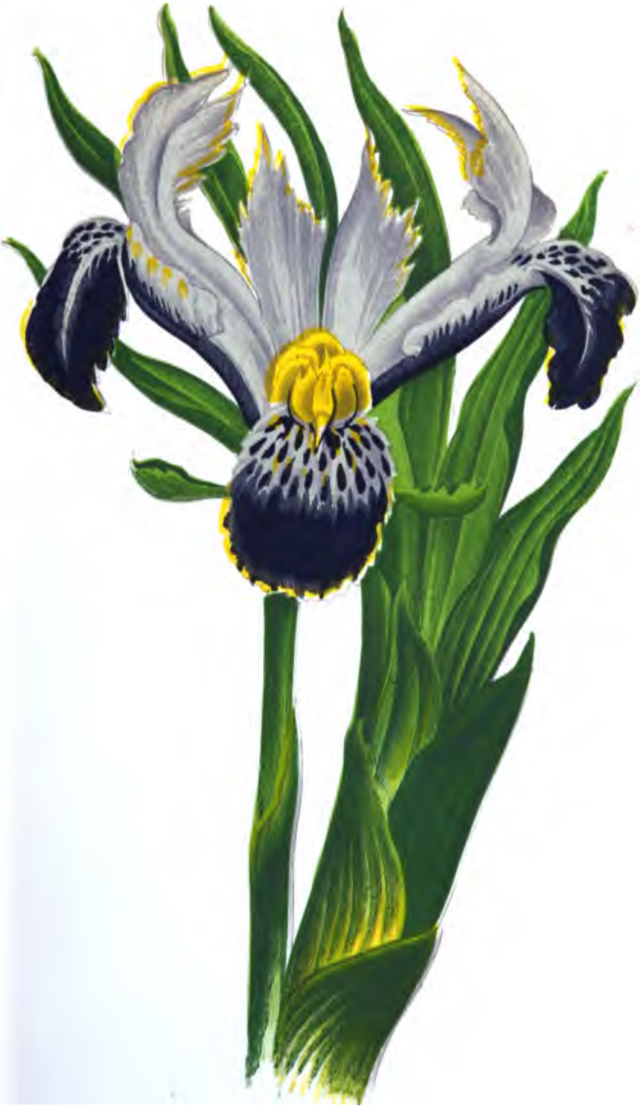


Fig. 5.
The Hepatica.

THE IRIS.

It is impossible to give in writing anything like an accurate idea of the beauty of this tribe, and it would require the aid of the painter's art to convey an accurate description of the grandeur and beauty of colour displayed in these charming flowers. Its varieties are endless, and its colours as varied as the rainbow. It must be seen growing before one can form an adequate idea of its beauties. Some have said they are not surpassed by even the rarest orchids, and a great advantage is that they are hardy. I often feel regret at seeing so many of these fine old flowers abandoned for what is not half so good, and much more troublesome to cultivate. There is nothing among flowers, old or new, that can compare with a good collection of iris in masses. Some of the miniature varieties are unique; take, for instance, the old Fleur-de-luce, and Susiana, for grandeur and beauty; and Persica and Reticulata are diminutive little gems of the first water. These should be grown in pots and placed in a frame, or in the conservatory—Persica is sweet-scented, and should be possessed by every lover of exquisite beauty with perfume. Then there is Iberica, a companion variety for Susiana. The one, large blue flowers netted with brown lines, and Iberica, a white flower with brown purple; and so one might go on enumerating species and varieties of this tribe, until a very large



IRIS PERSICA.

volume would be filled; suffice it to say here, that whoever takes an interest in growing the iris, I would recommend to have beds of a small size (if large ones are not wished for), in preference to growing them in mixed borders with other classes, or in borders of mixtures of iris. I venture to say, that such persons will be highly gratified with the sight when in flower. I will suppose a bed, or border, sufficiently capacious to hold 1,000 roots, planted with iris of all classes, selecting the tall-growing sorts for the back, or middle, as the case may be, the rest arranged according to size, finishing in front with the dwarf varieties, and the bed bordered with scarlet anemones closely planted, and we have then something out of the common. The iris is by no means tender, although impatient of stagnant water, consequently provision must be made for free drainage. A dry and poor soil will by no means suit them, such as a hungry dry bank, or near strong feeding trees and shrubs, but a good average tender soil, of a somewhat sandy nature, and moderately deep. The iris may remain in the same bed from year to year with an annual top-dressing of rotten dung, and if the ground is of an open nature, and the bed well prepared, no loss of roots will occur. If it is desirable to take the roots up, no time must be lost in replanting them, as they will not keep out of the ground very long; the roots of the bulbous kinds, if kept out of the ground long, perish with dry-rot, and nothing can save them. They may be taken up as soon as the stems die down, dried off quickly, and they may then be sent any distance if planted within a week. The tuberous, or rhizomous kinds are not so soon injured by being out of the ground; these kinds include Susiana, and all the varieties of Iris Kæmpferi. This class embraces the largest and most beautiful of the iris tribe, and are most desirable for beds and the select border, planted among golden double-walls, carnations, double-stocks, campanulas, peonies, &c. They are evergreen, with broad fan-like foliage, which enhances their value as desirable ornaments of the flower garden.

THE SITUATION BEST SUITED.

The hardy, tuberous, or rhizomous-rooted iris do far the best in a partial shade, hence a bed or border shaded from the mid-day sun by shrubs, a wall, or a hedge, is the best situation for them, and where they will luxuriate and develop extra large foliage and flowers, and last considerably longer in flower than they will if planted in a full exposed southern aspect; they will not come into flower quite so early, but that is of secondary consideration compared with a protracted season of flowering. The 'hedge-breaks' mentioned for shading the tulips, etc. (see page 8), are suitable for shading the iris.

THE SOIL.

The soil best suited to the growth of the iris is a mellow, sandy one, good in quality, with free drainage; a dry and poor soil, or one wanting moisture from having a hungry, gravelly, or rocky subsoil, will not answer. What I call a tender loam with sand in it is best suited for the iris. The bed or border should be first dug or trenched fifteen or eighteen inches deep, and a good lot of rotten dung dug in; then, with a garden trowel, plant the bulbs or roots one foot or one foot six inches apart, according to the kind and the object in view. The bulbous kinds may be one foot from row to row, and seven or eight inches apart in the row. The hardy, tuberous-rooted varieties may be one foot fifteen inches, and as much as one foot six inches apart, as these may remain undisturbed for years, and will rapidly increase in size. Moreover, they are gross feeders, and will draw upon the virtue of the ground, which will require an annual top dressing with old decayed manure or horse droppings from the road with the sand in it. This is as fine a manure as can possibly be used for flowers of any kind. Boys will gladly collect it for 6*d.* a barrow load and put it into a heap handy to the spot where it will be wanted. This manure should be put on the surface to the depth of four or five inches, during the month of September, or October for the herbaceous kinds, and in the early spring as a top dressing for the bulbous kinds.

The iris should be planted from four to six inches deep, using some sand for the bulbous kinds. It is absolutely necessary to plant the bulbous iris early in September, especially imported roots, as they will not keep well out of the ground, as I have observed elsewhere.

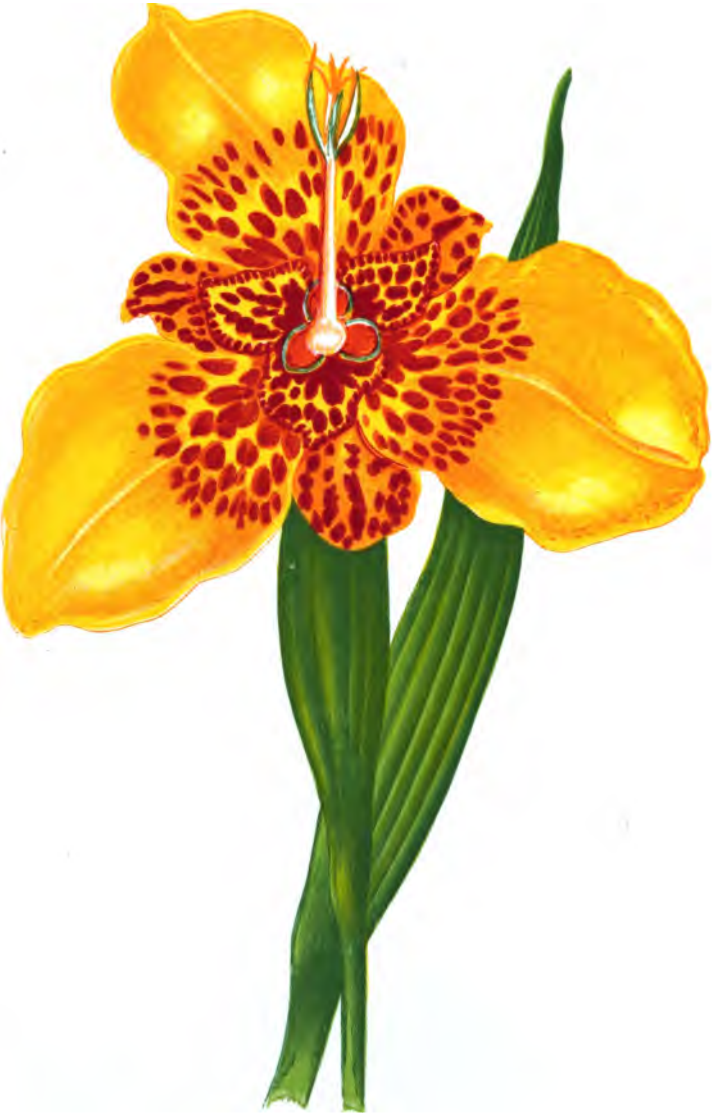
HOW TO PRODUCE NEW VARIETIES.

To make sure of producing a really good new seedling iris, great attention must be paid to the fertilisation of the flowers selected for seed bearing, and care taken in selecting a good stock to work upon; for instance, choose, say, six roots of desirable colour, and six roots with some desirable characteristic, plant these close together, and when they are in flower dust the seed-bearer with the pollen of the other, and place the flower so fertilised in a thin white paper (gauze, or muslin, will be better) bag sufficiently roomy to admit of the whole flower being enveloped without contracting or injuring it, and carefully tie the bag below the flower-head with a fine piece of bass; let the bag remain on for two or three days after the operation, which should be done just as the pollen is ready, indicated by touching the anthers with the finger, when, if ready, the pollen will adhere to it; then, with a pair of scissors, cut the stamens bearing the pollen from the flower, carry them to the flower you desire to save seed from, and dust the stigma, or style, as it is called, with the pollen. It is the stigma or the top of the style only which must be plentifully dusted with the pollen. This should be done on some fine, dry, still morning, as soon as the pollen is ready. Of course, this process is one that cannot be deferred many hours after the pollen is ready, so that to succeed well, care and daily watching are necessary. In selecting stocks for this purpose, good, clear, opposite colours should be chosen, such as Alex.

von Humboldt (white), with Glymii (dark violet); cross these, and such as these, to produce some rare novelties. Then, again, some of the large-flowered varieties should be crossed with the diminutive varieties of Pumila, and so on. No doubt some good and valuable varieties would result from such crosses done with care.

SAVING AND SOWING THE SEED.

The seed of iris ripens well, as it has the hottest part of the year to do so in. The ripeness of the seed is indicated by the pods becoming a light brown and opening at the top. When the pods of seed show such indications, cut them off and put them into a seed-pan on paper and set it in the sun to dry off finally. As soon as the seed is out of the pods and thoroughly dried, it may be sown or left until the spring. The seed, to ensure success, should be sown in deep seed-pans, or boxes, and then placed in a gentle heat, or in a good cold frame, to get the seed to germinate as quickly as possible. As soon as the seedlings are well up above ground they may be hardened off and the pans or boxes set out in the open air in a warm spot and well watered if in the spring; but if the seed is sown in the autumn, and the seed germinates very early, the seedlings must be continued under glass until the chance of sharp frost has passed. In one season the seedlings will form moderate sized bulbs and may be treated as mature bulbs. The soil should consist of fine, sandy peat one part, and loam and old pulverised manure two parts, with some silver sand, the whole made fine, and well incorporated. Put a good drainage in the seed-pans, then a layer of siftings from the same soil, then fill up with the above compost, and make the soil moderately firm and the surface even. Sow the seed evenly but not too thickly over the surface, press it in with a flat piece of board and cover it nearly one inch with soil, then set the pans, or whatever the seeds are sown in, in the frame as directed, and keep the surface of the soil in the pans moderately moist, by no means saturated with water. It is quite possible to advance the maturity of bulbous seedlings by pricking them out from the seed-pans as soon as the seedlings are sufficiently large to handle well. This must be done with care during the early spring: thus, a fine bed should be prepared on a warm border, consisting of similar soil to that in which the seedlings are. Prick them out three or four inches apart, give water, and shade for a few days if the sun is hot, and treat as mature bulbs. Many of these seedlings will flower the second season, and all the third season, from the sowing of the seed.



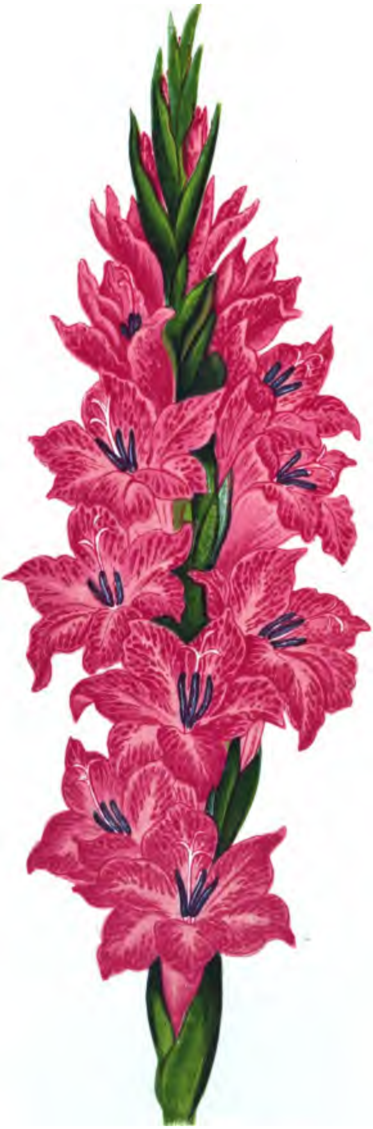
TIGRIDA PAVONIA.

THE TIGRIDIA.

THE TIGRIDIA, or Tiger Flower—from *tigris*, a tiger, and *eidos*, like—belongs to the Iris family, and consists of some six or seven varieties, all of which have most remarkably showy flowers, each flower lasting only a few hours, but as soon as one dies away another opens to supply its place on the same stem; thus the plant is kept in beauty for some time. The prevailing colour is yellow, beautifully and distinctly marked with red spots, making this family one of the most gorgeous to be found allied to the iris. It is not perfectly hardy like the iris, although not so tender but that it may be grown in beds of good sandy peat, loam, and leaf mould in about equal parts. It should be started into growth in heat, placing one bulb in a large 60, or three bulbs in a 48-sized pot, and in May planted out six inches apart. They make a most brilliant bed during the autumn months. Many complain that, do what they may, they cannot keep the tigridias during the dormant state, through their liability to dry-rot. The best plan I ever found to secure them against this disease is, after they have done flowering, and as soon as the leaves and stems begin to change from green to yellow, to take them up, carefully lifting the whole plant, leaves, roots, and all, and store them in a cool and airy shed, free from damp, and tying, say, six or eight together with a bit of roffea, or bass mat, half-way down the stems, hang them up on nails in the ceiling or roof, here they will dry and keep free from disease through the dull months.

PROPAGATION OF THE TIGRIDIA.

The Tigridia may be multiplied by offsets, which form pretty freely round the old bulbs; these may be removed at the time of potting the old bulbs, and potted like them, and either planted out in May or left in the pots for the season, afterwards to be treated as mature bulbs. The tigridias may also be multiplied by seed when it can be procured good, and treated as directed for iris seed; some novel varieties might be produced by crossing it with some of its allies, as the Iris, Dietis, Vieusseuxia. Some persons think a great deal of the tigridia on account of the extraordinary brilliancy of the flowers, unsurpassed as they are for gay colouring, but we seldom see a bed containing even half a dozen roots; the reason is, no doubt, that most persons fail to preserve the roots through the winter, and so get disappointed; but if my instructions for preserving the roots from dry-rot are followed, no loss will be sustained, and, consequently, growers of tigridias will not be disheartened. I know of no bulbous plant more likely to attract and interest lovers of curious flowers than the tigridia.



CLADIOLUS CONSPICUA.

THE GLADIOLUS.

The Gladiolus family contains many beautiful classes, such as **Gandavensis**, **Brenchleyensis**, **Ramosus**, **Cardinalis**, **Floribundus**, etc. The numerous varieties of gladiolus we possess are mostly hybrids from Gandavensis with Ramosus; the Ramosus class possesses very large, showy flowers, but generally only a short spike, such as Ne plus ultra. The Gandavensis tribe have very long spikes of flowers, but the individual flowers are short petalled. The Brenchleyensis and Cardinalis classes possess moderate spikes of flowers with good inflorescence and most showy and effective colours. It occurs to me that growers, such as Messrs. **Kelway** & **Son**,

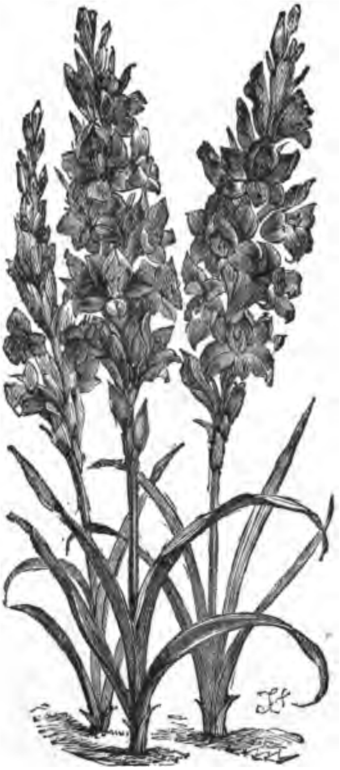


Fig. 6.
Gladioli.

of Somersetshire, MM. SOUCHET and TRUFFAUT, of France, work upon some classes peculiar to their own original taste to produce the particularly fine hybrids they are noted for; I am not quite sure, but my opinion is that the Messrs. KELWAY are far in advance of most other professional growers. By some superior knowledge and foresight as to what the results would be, they have succeeded in producing such gladioli as never were produced before, and, I was going to say, never can be, but I will not say so, because it is impossible to limit the capacity for change and development in the floral world. There are certainly some extraordinary gladioli produced by these enterprising growers at Langport, Somersetshire, where some five acres may be seen growing to perfection. Taking the gladiolus family as a whole, and considering its capabilities, its adaptation to all classes of growers, its easy management, the protracted season of flowering, and its hardy constitution, we consider it one of the first, if not the first, bulbous plant on the list worthy of general culture.

HOW AND WHEN TO PLANT THE GLADIOLUS.

It is not absolutely necessary to replant the bulbs every season; they may remain in the ground for several successive seasons without being disturbed, provided the ground is deep and of a sandy nature, and that a top dressing with old rotten dung is added annually. The gladiolus should be planted from November till March; some sorts, as the Ramosus family—Ne plus ultra, for instance—should be planted in the autumn; but the later sorts, as Gandavensis, Brenchleyensis, &c., should be planted, say, in February, or the beginning of March.

THE SITUATION OF THE BED.

The best situation for the gladiolus is one with a south-west aspect, and not one fully exposed or inclined to the south, for although such an aspect is much in favour of an early bloom, and conducive to the perfect development of the new bulbs and their maturity also, yet such a situation materially shortens the flowering season. As these plants grow tall and are liable to be much injured when in bloom, some 'wind-breaks' should be provided. Here, again, I must recommend the same useful screens referred to for 'shading tulips' (page 8), and must repeat my original opinion with reference to those useful and pretty rose hedges as permanent protections for the bulb garden. Anyone who has a definite and fixed purpose for making a bulb garden, with a view to carry it out well, should certainly plant these screens the first thing, and, if planted well and with good varieties of roses, apart from the bulbs, I can scarcely imagine anything more beautiful, clothed, as they will be, with masses of flowers, and forming secluded promenades, entering each of which would present some attractive features from April to September. In a south-west aspect the gladiolus will do well at all times.

THE PREPARATION OF THE BED.

The ground should be dug deep (15 or 18 inches), and a good lot of rotten dung and sand dug in at the same time. Sand is a most important article here; it may be clean river or fine road sand, silver, or pit sand, but not sea sand, nor sand containing mundic. There is sand in the mining districts which has a very good appearance, and is sold much cheaper than the ordinary silver sand, but which I find perfectly cankerous and poisonous to bulbs; it is not fit for any kind of plant work. Good, yellow, clean pit sand, where no rock exists, is as good as any for the gladiolus and bulbs in general. The ground may consist of good stout loam, made free by the addition of the sand, if not naturally open and free. Having determined upon growing gladiolus, choose the spot, and during October or the month of November prepare the bed as above directed, and when it is settled down proceed to plant.

PLANTING THE BULBS.

Having raked the surface of the bed moderately fine, mark lines one foot asunder. Then, with a garden trowel, dig out the holes nine inches apart in the lines. If the trowel is plunged its full depth into the soil, first one way and then reversed, the soil can be lifted out clean at two thrusts of the trowel, and the hole made deep enough for the bulb, which should be placed at the bottom, crown uppermost. Having planted the bulbs, take a box of sand, and half fill each hole with the sand, covering the bulbs; then fill in with the ordinary soil. The filling up of the planted bed should be done with a light hoe, closing the holes in well, and then chopping the whole surface over as a finish, but do not fine-rake the surface of the bed, as, in all probability, the heavy rains will bash the surface of the bed too much down, and thus render it impervious to the fertilising power of the sun and air, which is as necessary for the roots of plants as for the branches. In planting it is necessary that the roots should be sorted, and the large roots planted by themselves. When the roots are from a selected bought-in stock, which, of course, would comprise a miscellaneous collection of named roots of maturity, they must be planted as they come; but, in cases of replanting, they should be sorted, as many of the young bulbs will be weak, and not flower for a season or so. As soon as the bulbs have made growth two or three inches above ground they should be carefully hoed to break the surface, to let in air and sun. It is a good plan, about March or April, to cover the whole surface of the bed with two inches of old decayed manure or sheep droppings, or even horse droppings. This will shade the roots, and the rain will carry the nutriment to the plants.

SECURING THE FLOWERS AGAINST WINDS.

As soon as the flower-stems are a foot high, a three-feet stout stake should be placed to each flower-stem, or to each plant, and a bit of roffea tied to each stem of flower, and secured to the stake. When the gladiolus grows strong, and throws up large flower-stems, they are more liable to be broken by the winds than if they are less luxuriant; and if the tying of the flower-stems to the stakes is deferred too long, some morning you may find all your hope of success with some choice variety gone to the winds, by finding the flower-stems broken off close to the ground, and the crown of the bulb materially injured also.

THE SAVING OF SEED, AND RAISING SEEDLINGS.

Valuable varieties of gladiolus may be raised from seed; many of our new and choice flowers have been produced, yet, as numerous as these are, more may be looked for. In saving the seed care is necessary both in gathering and maturing it. Seed should be saved only from fine-shaped flowers, and good spikes; these spikes should have their flowers thinned considerably, to give additional vigour to the pods you wish to save for seed. The plants bearing the seed must have one or two extra waterings with liquid manure, during the filling out of the seed, which will, no doubt, conduce much toward producing finer kinds. Poor, lean seeds produce poor results in all cases.

SOWING THE SEED.

The seed of gladiolus must be preserved through the winter in paper bags, and sown in the early spring. I sow it in deep boxes, containing one part leaf-mould, one part maiden loam, and one part silver sand, well mixed, and run through a half-inch mesh sieve; good drainage must be ensured by a layer of rough siftings over the crocks, then fill the pans, or boxes, with the above compost, and settle it down moderately firm by pressing it with the ends of the fingers. Make it level, and smooth on the surface, then sow the seed evenly, but not too thick, and cover the seed one half-inch with the same fine compost, and set the pan, or box, in a cold frame, or in one containing a slight heat, if at hand. As soon as the seedlings are two or three inches above the soil, remove them out of the frames—of course hardening them off if they have been subject to heat—set the boxes under a south wall, where they may remain during the following summer, keeping the seedlings well supplied with water, and an occasional watering with weak manure water, this will materially advance the maturity of the young bulbs. In the autumn they may be dried off by turning the boxes or pans on their sides, and afterwards taking the young bulbs out of the boxes, etc., and replanting them in a bed of moderately fine soil, with plenty of sand, and decayed stable dung; plant them closer than mature roots—six inches asunder for the strongest, and four inches for the small ones; let the roots of the small bulbs be about three inches deep from the surface. Draw drills, as for peas, and plant the small bulbs in them, and sprinkle some sand over them before covering up. These young bulbs may be replanted as soon as they are removed from the seed-pans, or they may be kept until the month of February. In some cold counties, it will be necessary to protect the autumn-planted bulbs, during severe cold, by a covering of ferns, old hay, straw, or cocoa-nut fibre, which must be removed as soon as the danger of frost is gone.

THE LILY.

THE LILY is such a general favourite, and is so well known, that it seems almost superfluous to say anything about it; nevertheless, I find even old hands (amateurs) who are not aware that such beautiful varieties exist as those we now possess, nor do they succeed well with those they cultivate. I am often asked, 'How is it that my lilies fail altogether after the first and second season of planting?' Again, some ladies or gentlemen come into my nursery garden, and there see what they think a new variety, in splendid flower in pots, whereas it is an old sort, which they, perhaps, have not seen growing in such perfection. Now these remarks induce me to say something in reference to the Lily tribe, which, I hope, may be of use to my readers. Firstly, the lily is found in all parts of the world, and this should be especially considered, as the change of soil and climate materially affects the

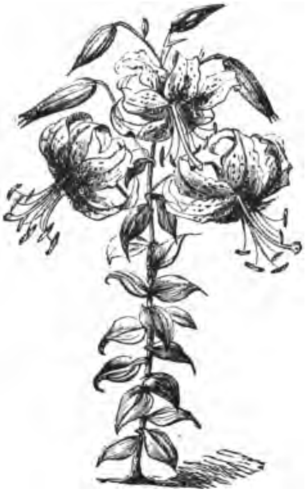


Fig. 7.
LILIUM LANCIFOLIUM.

constitution of the lily. Thousands of Lilium auratum, natives of Japan, perish annually from this cause, and even should they survive the first season they will ultimately pine away simply for want of proper soil and treatment. Lilies, whose habits are tender, and natives of warm climates, are very sensitive to improper treatment. I advise growers of this class of lilies to persevere in raising them from seed, when they will become acclimatised. The Lilium lancifolium album is another tender variety, and one that is becoming scarce in this country, entirely through the weakness of its constitution. The American varieties are hardy, and more adapted to our climate. The splendour of the lily, as a tribe, is beyond description, and it would fail me to bring before the reader's eye the unequalled grandeur, diversity of colour, and charms of a garden of lilies.

HOW TO PLANT THE LILY.

To succeed in growing the lily to perfection great care is necessary, as it is of no manner of use to plant the bulbs indiscriminately in the soil, as is done in ninety-nine cases out of a hundred. Ordinary garden soil is not (as a rule) suitable for lily growing, and under common treatment they will not live beyond the second or third year. To succeed well, I wish to impress upon the reader the necessity of preparing the beds with peat, leaf-mould, sand, turfy loam, and manure. If peat of a good kind cannot be had, then get one half leaf-mould, one fourth turfy loam, and one fourth decayed hot-bed manure, and a good lot of fine pit sand, and be careful in all cases to secure a good drainage at the bottom of the bed, by digging out the subsoil, if of a cold clayey nature, and replacing it with coarse, top-spit heath peat, in spits, rough as they are dug, or some fire peat, chopped furze, or lime rubbish, &c.; then fill up the bed with the compost six inches above the level. The bed should first of all be clean dug out two spades deep, if the ground is of a cold, uncongenial nature, but if the top spit is of a fair sort, then turn this out on one side first, and dig a spit clean out from the bottom, and carry it away, and put in the drainage as I have said; then mix the top spit with the compost, and plant the roots at distances from each other according to sorts and the strength of the bulbs. The proper distance would be two feet apart for the strong-growing sorts, and one foot six inches for such as longifolium, lancifolium album, etc., and one foot asunder for such as Thunbergianum, aureum nigro, and maculatum. This last is the most dwarf lily we possess, with large, spotted, golden flowers. The bulbs are very small, and no one unacquainted with it would ever suppose so large and beautiful a flower could come from such a small bulb. I know of no dwarf lily capable of making a more showy bed than this, flowering early too. It blooms well in a six-inch pot, or a seven-inch pot is quite large enough for three bulbs.

Whether lilies are grown in pots, or in the open ground, no time should be lost in planting them in the autumn. It is very much against success if the roots are allowed to get dry, or are long out of the ground. If a lily bulb gets quite dry it is sure to rot. The bulbs should be planted six or seven inches deep.

THE PROPAGATION OF THE LILY.

Lilies are multiplied by four methods: firstly, by offsets from the roots; secondly, by the scales taken off the old bulbs; thirdly, by the young bulbs formed at the axils of the leaves up the stems of some species; and fourthly, by seed for new varieties. All the species may be multiplied by offsets, taken in the autumn, and planted by themselves until strong enough to take the place of mature bulbs. The second method of propagation is not advisable; but in cases of rare sorts, and necessity, a few scales may be taken off each strong bulb at the time of replanting in the autumn, and inserted in pots filled with fine sandy peat; in doing this, insert the scales two or three inches asunder all over the pot, burying them three-fourths of their length in the soil, water, and set the pots in a shady house, pit, or frame; these will be twelve months forming young bulbs, after which they may be potted off. The third method may be taken advantage of whenever it offers, which is not the case with many species. When the buds offer themselves, take them off, and plant thickly in peat in deep seed-pans, or boxes, and cover them an inch or two with soil. If they are choice sorts, set the pans in a frame, pit, or house, they will form flowering bulbs in two years. The fourth method may be adopted whenever seed can be obtained. The seed should be sown, during early spring, in pans filled with fine peat, and set on a gentle heat, kept moist, and shaded till above ground. This method is adopted when new sorts are required. Many of the seedlings will come like the original, some will produce improved varieties, and some may be inferior, but, in all probability, none will be worthless, especially if a little pains has been taken to hybridise the flowers bearing the seed with some improved kind. It is difficult to get lilies to seed in this country except under glass, then seed may be obtained moderately. In fertilising the flowers, choice should be made of bright colours, good character, and contrast in colour; for instance, choosing, say, eximium, or longifolium, which are fine trumpet-flowered sorts of pure white, for the seed-bearers, cut out the anthers, and dust the stigma with pollen from the tiger, chalcedonicum, or some of the deep-coloured varieties of thunbergianum, as atrosanguineum; or using any one of these for the seed-bearer, fertilised with the pollen from the white. Some novelties would arise out of such seed worth trying for.

THE PÆONIA.

NOTWITHSTANDING that the pæonias are among the grandest, noblest, and most conspicuous of the hardy plants we possess, embracing every shade of colour, yet it is quite a rarity to see a collection of them containing

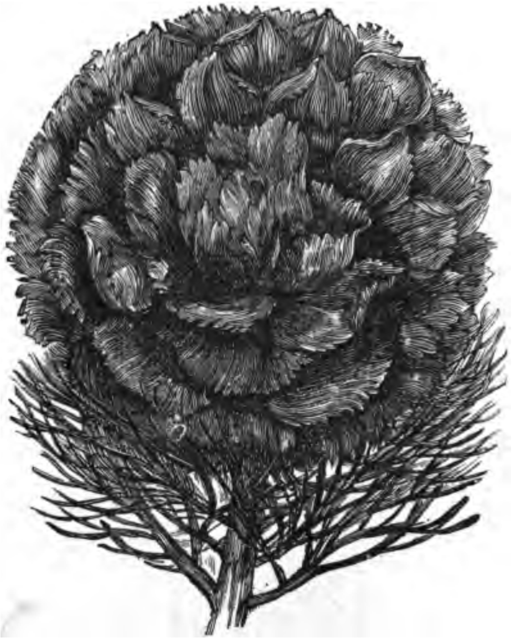


Fig. 8.
PÆONIA TENUIFOLIA.

a dozen good varieties. They are far better adapted for nine out of ten of our villa gardens than anything else we grow, simply on the ground of their hardiness and special adaptation for either broad borders or good beds, where they may remain undisturbed for any length of time. Nor is the cost of forming a good collection of twenty-four or forty-eight distinct and handsome varieties too great for ordinary purchasers, for although some rare and new sorts may run high in price, yet fine plants of good old varieties may be had for 1s. each—much cheaper than anything else, comparing the duration of the species with other plants; for if the pæonia is planted anywhere but in water, and in any kind of soil but rocks, it will grow and do very well, and live many years. It is also adapted for pot culture for early flowering for cut blooms, and is easily forced. There are two classes of pæonias, viz. the CHINENSIS and MOUTAN. The latter includes what may be called 'tree pæonias,' or shrubs. The former consists of herbaceous plants, i.e. those that die down to the ground every season and come up again in the spring.

PLANTING THE PÆONIA.

I have said that pæonias will grow in any kind of soil, but if you wish for fine luxuriant plants, and fine flowers too, every year, the soil must be properly prepared by deep digging, and adding good manure, if poor, and so on. The situation of the bed is of little consequence, but, as a matter of course, a warm, sheltered situation will produce earlier flowers than a cold aspect. The proper time for planting is the autumn, but they may be planted during the month of February, and even March, but not later. One foot six inches apart may be the average distance to plant the herbaceous kinds, but the moutan pæonias should be planted two feet apart, if strong plants. Plant with a small spade, and let the crowns be two or three inches below the surface for the herbaceous kinds.

THE PROPAGATION OF THE PÆONIA.

The moutan pæonia is propagated by grafting it on the roots of the common single varieties, i.e. of the herbaceous kinds, raised by seed or cuttings of the roots. The stocks should be well rooted before grafting them. This may be effected by potting the pieces of root early, and, during the autumn, inserting a bud-graft in the stock, just below the surface, or close to it, and covering it up after tying the graft in; or buds may be inserted in stocks in the ground as they can be had. Pæonias may be raised from seed also; but, as the seed is very hard, it is necessary to soak it in hot water for twelve hours. The seed, when soaked, should be sown in deep seed-pans, filled with peat, loam, and sand, in equal parts, and covered one inch deep; then place the pans in a brisk heat until the seed is up, when it may be removed to a lower temperature to harden off, and ultimately planted out in the open ground. The seed should be sown early—as early as February—so that the seedlings may get strong before the coming winter. Many of the seedlings will be good, others inferior, and some good for nothing but stocks for grafting. Few flowers can compare with old-established plants of the moutan pæonia when in bloom.

THE NARCISSUS.

THE whole tribe of Narcissus is divided into three classes, viz. MAGNI-CORONATÆ, or the trumpet-flowered narcissus; MEDII-CORONATÆ, or medium perianth narcissus, with double flowers; and PARVI-CORONATÆ, i.e. individual flowers, less than half the length of the perianth, or the calyx and corolla—these individual flowers are smaller than in the two first groups, but they flower in heads, or clusters. In the first group will be found the most noble varieties, being trumpet-flowered in white, yellow, and sulphur. Perhaps the most beautiful are Cernuus, white; Bicolor, white perianth and yellow petals; and Moschatus, lemon colour, very long trumpet, and musk-scented. In the second group we have some very splendid double varieties, as Orange Phœnix, creamy white, with the centre deep orange; and Triandrus, a most beautiful flower, that reflexes like a cyclámen. In the third group we have the most desirable varieties for early

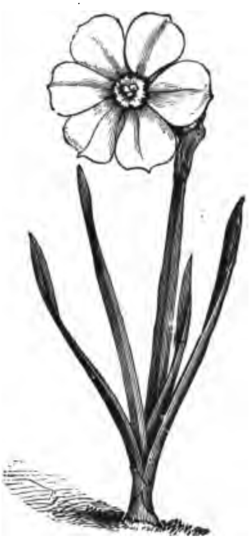


Fig. 9.
COMMON NARCISSUS.

decoration of the conservatory and the sitting-room. They are fragrant, and of two colours. Among the most beautiful and desirable of this class are the lovely Poeticus and Tenuior, or silver jonquil. Here confusion arises in reference to jonquils being white, as some suppose, whereas all the true jonquils are pure yellow, and belong to the class Mediicoronatæ; so let purchasers who want what are commonly called white jonquils, remember to ask for Narcissus tenuior—and a splendid flower it is.

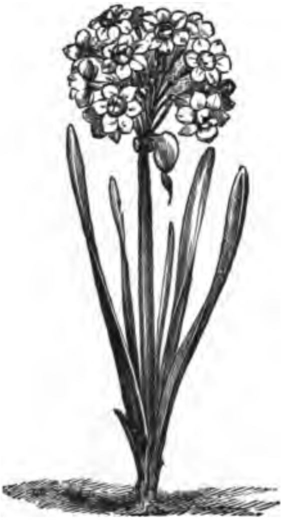


Fig. 10.
Polyanthus Narcissus.

THE GROWING OF NARCISSUS.

The adaptation of the narcissus to all classes is well known, suited as it is either for the roughest kind of gardening, or the most fastidious cultivator of flowers. The cultivation of the narcissus is simple and easy, yet we see so few in our gardens, although they may be purchased at a low price. They may be planted in borders, or in beds. In permanent beds of various kinds few flowers excel them, and nothing can compare with them for use in making bouquets, and for vase work, mixed with roses, camellias, forced pinks, etc. Nor are there many flowers more suitable for ladies' head-dress; many are of the purest white and of delicious fragrance. The ground should be dug deep when preparing a bed for the narcissus. It is very hardy, and will do well enough when once thoroughly established; but on first planting a fair start should be given them by a moderate preparation of the soil. If the ground is poor, some rotten manure should be added; if clayey and cold, add some sharp sand and peat. In planting the bulbs, which should be done early in the autumn, say from September until November, and not later than the middle of December, a planting trowel should be used to lift the soil out, so as to let the bulb in three or four inches below the surface. The distance at which each bulb should be planted will be regulated by the effect to be produced, but they should not be farther apart than eight inches every way: six inches is enough for most of them.

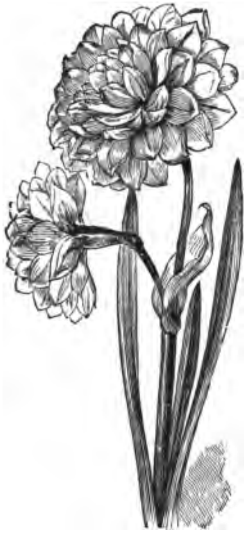


Fig. 11.
NARCISSUS ODORUS.
(QUEEN ANNE'S JONQUIL.)

POT-CULTURE OF THE NARCISSUS.

Any of the narcissus may be grown in pots, but those best adapted for pot-culture are the Polyanthus varieties—group 3, PARVI-CORONATÆ—selecting from this class such as poeticus and poeticus albus (plenus odoratus), tenuior, and dubius totus albus. They should be potted as early as possible to get very early flowers. Three bulbs may be put into a six-inch pot, using good maiden loam, sand, and rotten dung, in equal parts. It is a good plan to plunge the pots on a warm border, in cinder ash, saw-dust, old tan, cocoa-nut refuse, &c., after potting, covering the tops of the pots three or four inches; here let them remain for a month or six weeks, when, on lifting the pots, the roots will be found to have filled them; this being the case, they may be put in a moderate heat, to bring them on. If the bulbs are potted in the beginning of September, flowers may be had by Christmas. As the flower-stems advance, manure water should be given freely. The bulbs of the narcissus may be forced year after year, if, after they have done flowering, they are put into a cold frame, and

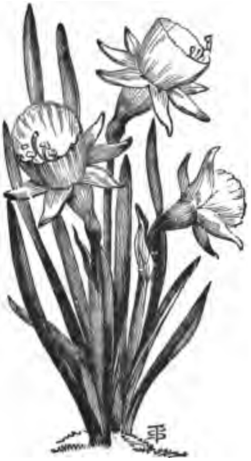


Fig 12.
NARCISSUS BULBOCODIUM.
(HOOP PETTICOAT.)

the strength of the bulbs maintained by being kept moist until the leaf begins to die off, and the pots plunged outside as soon as the leaf is dead, or before, if the weather is mild, and let them remain undisturbed until required for forcing again, when the pots may be lifted, the worms driven out of the pots with a little lime water, the top soil removed for one inch, fresh soil put to fill up the pots, some weak manure water given them, and set in heat as before.

THE PROPAGATION OF NARCISSUS.

The only method by which to propagate the narcissus is by offsets taken from the old stools as they appear annually, at the time of taking up. These offsets should be planted out in beds by themselves in good soil for a season or two, during which time they will arrive at maturity. The different classes should be kept separate and to name. Those who wish to increase their stock must take the old bulbs up every season, as soon as the leaves and flower-stems turn yellow, when the offsets should be detached.

THE HYACINTH.

The Hyacinth is too well known to require a lengthy description, but as in all probability some of my readers may be, in a measure, or altogether, unacquainted with its capabilities, I may venture a few words of commendation of this general favourite. The hyacinth is a native of our own country as well as of many other parts of the world. I have seen it growing wild in abundance in various parts of England, and in one locality in Devonshire I have seen some specimens growing wild nearly as good as those we see in our gardens from roots imported from Holland. It is something rather strange to me that such large quantities of these bulbs should be annually imported from Holland, Belgium, etc., and yet no one has taken up the idea of cultivating them in

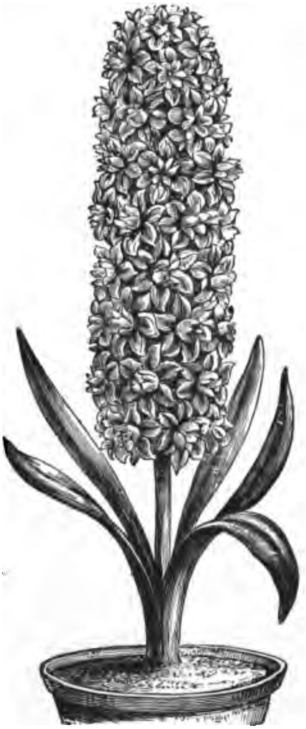


Fig. 13.
The Hyacinth.

this country for commercial purposes, as do the Hollanders. There is nothing to hinder it, providing suitable soil can be obtained, and that is no impediment, as there are many localities where such soil abounds. Many situations on our sea coasts are admirably adapted for this work. The chief thing is the judicious management required in raising new varieties from seed, the propagation of standard sorts, and the planting and maturing of the bulbs. The growing of the hyacinth for sale is a most profitable trade considering the value of the roots produced in one acre. Supposing they were planted at distances of six inches by four inches, it would take 200,000 bulbs to fill the ground, i.e. 200,000 bulbs can be grown on ONE ACRE of land, allowing ample room for pathways between the beds; 200,000 bulbs of hyacinths then, at £12. 10*s*. per 1,000—a low price upon the whole, for although many would have to be sold at half that price, many would be sold at as much more. Averaging £12. 10*s*. per 1,000 then, the value from the acre of land would be something like £2,500, but it would require, of course, three acres under cultivation to produce one acre of good saleable bulbs annually, for one acre is necessary for offsets, one acre for the same the second year, and one for the mature bulbs, which would be the third year. The offsets arise out of old bulbs above three years old, or come from seed-bearers, etc. The hyacinth bears seed freely, and this is the way new ones are raised. The bee is very partial to the hyacinth, and will fertilise the flowers freely, so that many new kinds may be expected from good sorts; and if the seed-bearers are highly cultivated, many fine double ones will be the result.

THE SOIL.

The soil best suited for hyacinth growing is one that is naturally deep, such as we find in some of the flat bottom lands near the coast, of a sandy nature. Abundance of sand must be used, or the bulbs will not do well, nor present a clean appearance. The Holland florists grow them in nearly all sand, hence the bright and clean appearance of the bulbs we get from them, which look as if they had been washed.

PLANTING THE BULBS.

The planting may be done from September until December, the end of October being a good time; the beds should be made a week or two before planting the roots, so that the soil may settle down. Some good old rotten dung should be dug into the bottom of the bed. The top soil must be well mixed with a heavy dressing of sand, and the whole well blended together and made fine. The planting should be done, on a fine day, with a large garden trowel. The distances at which to plant the bulbs is a matter of two or three considerations. If money is no object, and perfection the chief desire, the roots should not be planted more than six inches apart every way. It is truly miserable to behold some plantations of these and other bulbs when in flower, where as many bulbs are planted on a rod of ground as should be planted on fifteen square yards, or even seven. What is the consequence? Why, the owner is disgusted with the paucity of flowers, and dissatisfaction is the result. I will venture to say that no one who is at all partial to bulbous flowers will quickly give up the growing of hyacinths in beds if the beds are planted properly. The bulbs may be kept from year to year, with no other expense than the first outlay. In planting, the hole to receive the bulb must be made clean, and deep enough for the crown of the bulb to be not less than four inches below the surface, and a handful of clean sand should be put in immediately on the bulb; then fill the holes with a light hoe, closing them in well with the ordinary soil of the bed. After the bed is planted, it may be raked over the surface with a coarse nail-toothed rake, with long teeth, merely to give the bed a little evenness and neatness, but in no case rake it with a fine-toothed rake, nor too much, for when the surface of a newly planted bed is raked down very fine, the heavy rains will bash the surface, and render the soil impervious to the fertilising influences of the sun and air.

HOW TO PRODUCE FINE FLOWERS.

If the beds are properly made, and the soil possesses the necessary virtues to produce fine flowers, it will scarcely need additional stimulant, yet one or two good waterings, with some liquid manure, just as the flower-spikes are half grown, will be found to produce additional results by way of extra large bells and finer trusses. There is nothing better for this than the same as recommended for the tulip (see page 10).

SAVING SEED FROM THE HYACINTH.

No seed must be allowed to ripen on those bulbs that you wish to advance to maturity, nor on those arrived at maturity that are required for future use, or for sale. Bulbs suffer considerably from seed-bearing; therefore, as soon as the flowers are over, nip off all the flower part of the spike. I nearly ruined a collection of fine tulips once by allowing them to bear seed. Bulbous plants of most kinds are reduced in strength for the following season if allowed to bear seed, so that when seed is wanted from the hyacinth, some old roots that have gone beyond the age when single spikes of really good flowers can be looked for, should be grown for the purpose of propagation by seed, as well as by offsets of good sorts, as these old store roots will do both at once; thus, a reserve plantation may be made a permanent and profitable thing. Those hyacinths intended for seed-bearing should be in rich soil and in a good situation; not altogether a very sunny aspect is the best, for the hyacinth rather prefers shade than too much sun. The single hyacinth will bear seed freely, which will ripen well. It should be dried, and may be sown either in autumn or early spring, as recommended for tulips.

TAKING THE HYACINTHS UP FROM THE BEDS.

Maturity of the bulbs is of the utmost importance, before they are taken up from the ground; this is plainly indicated by the colour of the leaves, which assume a dead yellow. The bulbs must not remain in the ground much after this, or they will soon begin to throw out fresh roots. Therefore, whether the collection be large or small, all those intended for the next season's flowering must be taken out of the ground without delay, dried for a few hours, and then carried to a dry, open shed, where, after a few days' further drying off, they may be properly cleaned and trimmed off, cutting all the leaves and flower-stems close and clean off to the crown, and then laid on cool and airy shelves where there is plenty of light.

GROWING THE HYACINTH IN POTS.

If hyacinths for the sitting room were grown in pots, instead of glasses, we should have them 50 per cent. less in price than we can get them now. These bulb-destroying glasses are the chief cause of the high price of hyacinths; on the other hand, if grown in appropriate pots, that immense sacrifice would be avoided. I here give an illustration of an ornamental hyacinth pot suitable for the drawing room, and quite as ornamental as the glasses.

This pot should be not less than 7 inches high, and 4½ inches diameter at top, inside measure, for a single bulb, and 6 inches diameter for three medium-sized bulbs. Hyacinths grown in such pots will last for years, and if the bulbs are potted well, in a compost of half rotten dung and half good, sandy, maiden loam, they may even remain in the pots until the second season has gone over without disturbing them, provided they are put in a shady place, free from the drip of trees, as soon as they have done flowering the first season. Keep them moderately moist, but not over wet, and see that the drainage keeps good. Early in the autumn, say beginning of September, these reserve hyacinths may be top dressed with the same compost as they were first potted in, removing an inch of the old soil first; press the top soil in firmly, give a good soaking with water, and set them in a frame, house, or window, and water as required, and most or all of the bulbs will throw up strong flower-scapes, and give a truss of flower equal to the first season, and some of them even better. As the trusses advance in bloom give one or two good waterings with liquid manure, and I venture to say the result will be most satisfactory. There is a great advantage connected with letting these hyacinths remain in the pots undisturbed the second season. They are already rooted by the time newly potted bulbs are first potted, which will require five or six weeks to root before they can be

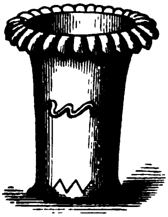


Fig. 14.
THE MODEL HYACINTH POT.

brought into the house, or subjected to a warm temperature, whereas these reserve pots may be brought forward at once.

After the second season these pot hyacinths may be transferred to the ground, where they may be permanently planted, and remain for years, by top dressing them annually with rotten dung carefully forked in a few inches; this should be done during the month of September or October.

In potting hyacinths it is necessary to make the soil in the pot firm, but not rammed in hard, before the bulbs are put into the pot. The soil may be made very firm on the top and around the newly potted bulb, but if the soil is made very solid below the bulb, probably the very tender roots, which are numerous, will push the bulb clean out of the pot, not being able to penetrate the soil below.

THE HYACINTH IN GLASSES.

Notwithstanding all that may be said against growing the hyacinth in water-glasses, and the economy attached to growing them in pots, yet I know there are many who will still adhere to this fancy method of growing them, although attended with real money loss year by year. The plan to follow is this: fill the glasses with soft water, so that the bottom of the bulb barely touches the water, and set them on a board (not on stone) in a cool half-dark cupboard; here they may remain until the roots are an inch or two long, when they may be brought to the light. It is not necessary to change the water at all, but a lump or two of charcoal may be put into the glasses, and the water kept up to the bottom of the bulb by adding as it is required. Hyacinths grown in glasses are of no use after the first season.

THE IXIA.

THE Ixia and Sparaxis are nearly similar, all the difference being that the ixia has not a toothed or jagged sheath or calyx like the sparaxis. They are Cape of Good Hope bulbs, and require a sandy, dry, and peaty soil. The bed must be open to the south, and rendered dry and moderately fine. The bulbs, which are very small, may be planted in the autumn or spring. If planted in autumn the bed must be protected during frost or heavy rains, by placing a ridge pole on two or three stout crutch sticks, two feet from the surface of the bed, and placing some straw mats resting against this ridge pole on each side of the bed, the lower part being in the pathway and forming a waterproof, roof-like covering to the bed. The mats are easily made with tar twine and straight, clean, reed straw, i.e. wheat straw that has not been broken in threshing. Most men can make these mats; they are the very best protection possible for all frame and garden purposes. These mats

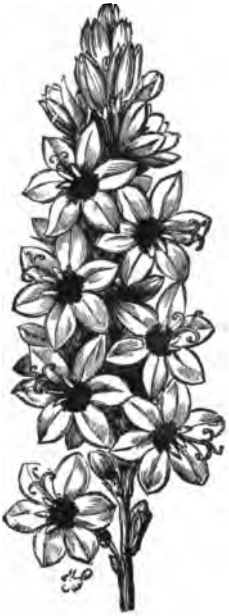


Fig. 15.
THE IXIA.

not only ward off the wet, but being three times the thickness of the Russian mats are a safeguard against any amount of frost.

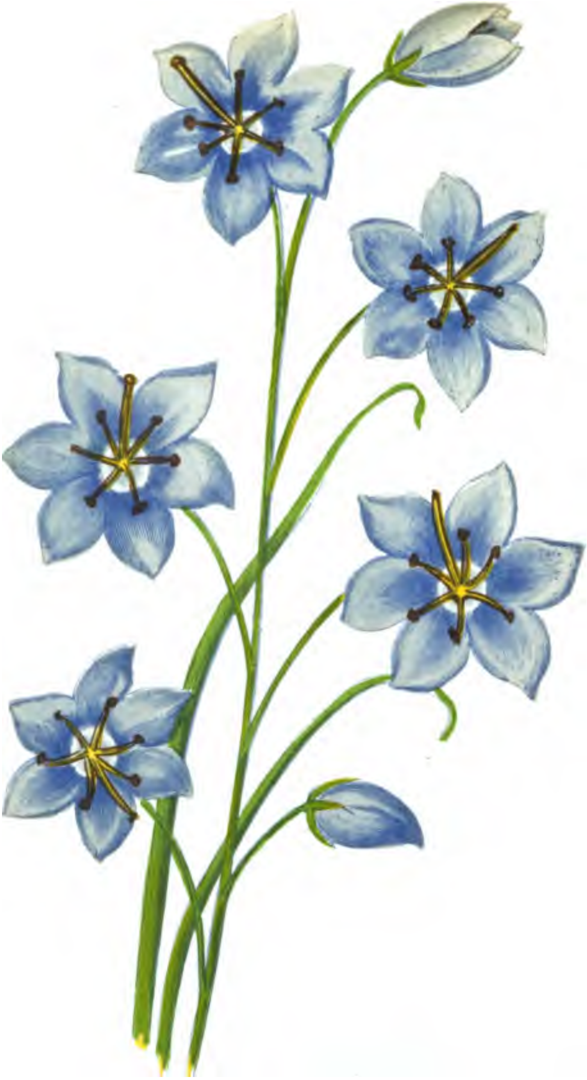
If the ixias are not planted until February or March no protection will be required. The bulbs should be planted four inches apart and about four inches deep, in drills six inches asunder. The planting is best done with a trowel, and some clean, sharp sand should be put upon each bulb before finally covering up. If the ixias are planted in the autumn, the surface of the bed must not be raked down too fine, for if it is the surface will become hardened. As soon as the bulbs have made growth an inch or two above ground, they should be carefully surface-hoed, to open the soil. As soon as the flower-buds appear, some good waterings with liquid manure may be given freely.

TAKING THE BULBS UP.

As soon as the stems and leaves die off yellow the bulbs may be taken up, or if they are in pots, where they do very well, they should be turned out, dried off, and trimmed and cleaned, and put away in a dry, airy, and cool room.

The ixia may be propagated by offsets and by seed; by seed for new varieties. They naturally belong to the order IRIDACEÆ, which includes *Babiana* and *Schizostylis*, the former being blue, and the latter rich crimson scarlet. Some very brilliant new ixias might be got from seed by fertilisation, or rather hybridisation. The schizostylis is hardy, and would produce a much hardier race of ixias than we have. The only thing is that the schizostylis flowers much later than the ixia, but if a pot of the former is kept in a frame some flowers will come early, so that pollen may be had ready for the ixias. The flowers of the schizostylis are of great substance, which, if it could be transferred to the ixia, would give a character much wanted in the latter.

The seed of the ixia should be sown in seed-pans in peat, sand, maiden loam, leaf-mould, &c., in the month of February or March, and set on a gentle heat, until up, when it may be removed to a cold frame. The seedlings should remain in the seed-pans till the second season's growth is finished, after which they may be treated as mature bulbs.



SQUILL.

THE SCILLA OR SQUILL.

THE Squills are a class of hardy bulbs not soon worn out by age or ill treatment. The prevailing colour is a lovely light blue. I know of no hardy bulbous plants so well adapted to cottage gardening as these, not merely on account of the ease with which they may be grown, but also for their adaptation to all sorts of soils and situations. Good common garden soil suits them, and they may be planted in the border in front, or in the middle row (according to the sort), where they may remain for years undisturbed. Here I may venture to suggest a mixed border of bulbs, at once uncommon and beautiful.

Let the border be of any desirable length you please, but the width must not be more than five feet. A row of Scilla hyacinthus in front, or one plant of this and one clump of snowdrops alternately, six or eight inches asunder; next to this row a line of S. peruviana alba and peruviana, blue, alternately; next to these, a line of S. campanulata, blue, and campanulata alba alternating; next to this, a line of Narcissus phœnix, and Narcissus poeticus, alternating; and a back row of that superb old species, the crown imperial, for a finish. These will all flower about the same time, except the snowdrops, which of course will flower the first in the front row; but this line may be planted so close that no deficiency will be noticed in the line of squills when in flower. These lines may be planted one foot from line to line, and this will admit of an intermediate line of other plants being inserted for a succession after these early squills &c. have done flowering. These intermediate flowers may consist of iris, gladiolus, Ornithogalum arabicum—a magnificent bulbous plant—and Schizostylis coccinea. Thus a magnificent border of bulbous plants may be made that will keep up a continuous display of superb bloom for the whole season; and if the border is well made, and the roots properly planted, and a top-dressing with rotten stable manure annually put on them, and carefully forked in between the roots during the month of November, no deficiency of flowers or roots will take place during probably a lifetime.

The squills are a durable class of bulbs, and are particularly suited to those who have not the time to bestow upon more tender bulbs. They may all be had in large quantities, at from *5s.* to £1 per 100, according to sorts. None of the bulbs I have named under this head require to be taken up from the ground every year; they should be planted from five to seven inches deep at first.

THE PROPAGATION OF THE SCILLA.

The scilla may be raised from seed for new sorts, but they are generally multiplied by offsets during the autumn. These offsets should be planted in a bed by themselves for a season or two. The soil should be of a sandy nature, and the bottom free from wet.

THE LILY-OF-THE-VALLEY.

THE Lily-of-the-Valley is allied to a class of plants very little known, many of which are equally if not even more beautiful than this favourite. The tribe includes the beautiful Polygonatum fragilis, 'Solomon's seal,' double and single, and P. giganteum, a rose-coloured variety of large size. The old Solomon's Seal is a most splendid plant, growing about two feet high, bearing a raceme of lily-like flowers, hanging like little bells on the under side of the flower stem, which bends over in a graceful curve; the leaves of the plant are above the flowers, in a pinnatifid form, and the lovely white bells are suspended beneath. I know of no plant among all our hardy perennials comparable to this, and yet we seldom see a plant of it—no, not in a week's search. It is not more tender than the lily-of-the-valley, nor more difficult to grow. There is one thing I would mention respecting this lovely old plant, viz., that it should not be disturbed for years.

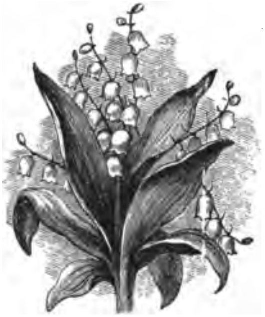


Fig. 16.
LILY-OF-THE-VALLEY.

The roots should be procured from home growers, in the month of September, or not later than October, and planted without delay where they are to grow, which should be in a somewhat shady border, not under the drip of trees, nor yet where the sun cannot shine on them once in the day: a west aspect is as good as any. The bed may consist of good, friable, common garden soil, containing sand. Plant the roots in a drill three inches deep; once the roots are established they will continue for many years, and will be found most useful and lasting for cut flowers for table vases. Roots may be had for about 4*s*. to 6*s*. per dozen.

The lily-of-the-valley prefers a half shady border also, with a south-west, or west aspect. To make a plantation of lilies, it is better to choose stout single crowns during the early autumn, or spring, and plant them, with a dibber, in a good and well prepared bed situated as above. The crowns may be trimmed pretty close, so as to make a nice, compact, single plant. They may be planted two inches below the surface, and in rows four inches by three inches asunder. Here the roots should remain fully three years undisturbed, beyond keeping them free from weeds. Some of the crowns will flower the second season after planting; but, as a rule, it will take three years before the whole will flower well, when, for commercial purposes, they may be taken up and sent out with confidence as flowering roots, or used for forcing. In dry weather they require abundance of water, which, if omitted, will be much against the bed producing good flowering crowns; abundance of water, therefore, must be given them during the summer, and occasionally a good soaking with some liquid manure, which will materially help to develop extra large crowns; no water will be required after the leaves begin to die off. It is necessary, after five or six years, that the plants should be either entirely taken up and replanted, or the old roots thinned out, so that those remaining may have room to make new crowns, for, if this is not done, the roots, having exhausted the soil, will perish for want of nourishment, hence we sometimes find old plantations wanting flowers.

HOW TO FORCE THE LILY.

The lily-of-the-valley will not force very easily, it is a most obstinate thing to force. If subjected to a brisk heat you will get poor flowers and no leaves. To force the lily-of-the-valley, so as to get good spikes of flower and foliage with the flowers, it is necessary to pot the roots as soon as possible in the autumn. This can seldom be done before November, on account of the roots not having matured their growth, which is indicated by the foliage dying down; but it will be found advantageous to promote an earlier maturity of the roots and crowns, for flowering the following season, by placing shallow frames and lights over the plantations early in the season, or by giving them some strong liquid manure. Either or both of these plans will advance the growth of the crowns, and as soon as they are matured, the roots may be lifted from the beds, and either potted, or planted in a pit, or house, with a low temperature: a gentle bottom heat is absolutely necessary to force lilies. It is a good plan to cover the pots, or the roots to be forced, with some rough moss four or five inches thick. If this is not done, the roots will not start into growth so quickly. They must be saturated with water almost daily, to induce abundance of foliage. As soon as the buds and leaves begin to break into growth, the moss may be removed. In potting the roots for forcing, let the crowns be not less than one inch below the soil. If clumps are used, as is mostly the case, not less than seven-inch pots must be used, i.e. seven inches diameter across the top of the pot. Little or no drainage will be required; just one piece of crock over the hole, then put some fine soil—maiden loam, sand, and rotten manure well mixed—at the bottom of the pot, put in the clump of roots, and fill in firmly, using a planting stick to work the soil well down between the pot and the roots. When all are potted, set them on a bottom heat of about 60° or 65° Fahrenheit, but do not confine the heat too closely above. The lights should be left open if they are in a frame; a low house with a tank is the best, as there is more heat at the bottom of the pot than at the top, which is just what is wanted to establish the roots; once more, never let them become at all dry, nor force too high. The potted roots do equally as well the second season as the first, if too many of the leaves are not taken off, and if, after they have done flowering, they remain until the new crowns are formed, when they may be set out in a sunny spot, and supplied with abundance of water all through the summer.

PROPAGATION OF THE LILY-OF-THE-VALLEY.

Lilies-of-the-valley may be propagated by single crowns, and by seed; but as the roots can generally be had for a mere trifle, it is scarcely worth while to take the trouble to raise plants from seed. The roots abound in wooded localities. The seed should be sown in deep seed-pans in the early spring, and set in a gentle heat. Raising the lily from seed is convenient for those going abroad, where, perhaps, there may be none. The pans must be shaded with some coarse light moss until the seed is up, and when strong enough the seedlings should be planted out in properly prepared beds.

HOW TO GET NEW SORTS.

No doubt some larger-flowered kinds may be produced by hybridising the flowers of the ordinary kinds with the pollen from some of the large-flowered species, of which there are numerous varieties.

THE TRITELEIA.

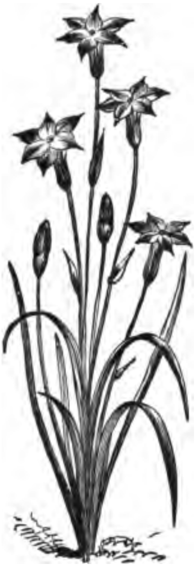


Fig. 17.
THE TRITELEIA VIOLACEA.

THIS is a small useful tribe of plants, of recent introduction from South America. They are not generally known, but are well worthy of general cultivation, as they force easily in pots for early flowers, and are well suited for beds and borders, especially uniflora; pots of this variety will continue to flower a long time, and for two or three years they may be kept in the same pots, and will flower well. The bulbs are small, and three may be put into a 48-sized pot, using maiden loam, sand, and peat. The flowers are large, salver-shaped, and very stiff petalled; they are violet scented, and the colour is white with a tinge of blue. Biflora is white, with a green stripe; laxa is blue, and flowers in umbels, and is a charming flower; some of these should be in every good garden. The roots may be had in the autumn, from 5*s*. to 40*s*. per 100, according to sorts; uniflora at 5*s*. per 100; laxa at 20*s*. to 40*s*. per 100, and biflora higher in price. Uniflora may be planted in dwarf beds, in a warm spot, and early flowers will then be had, which will be found most useful for bouquet making. Plant as for snowdrops, crocuses, &c.

THE ERYTHRONIUM.

THE Erythronium, or Dog's Tooth Violet, should be in every good garden. There are now many new and rare sorts, some of which may be classed among our best hardy bulbous plants, and deserve special attention. The old Dens Canis album and roseum are well worth cultivation for the beauty of their leaves, as well as for their pretty cyclamen-like flowers and dwarf habit. These dwarf sorts may be planted in patches of five or six together at intervals, alternating with like patches of snowdrops, crocuses, squills, &c., or they may be planted as an edging to a bed of hyacinths, squills, &c., in a single row, two inches apart. The ground should be good, and of a sandy nature. These roots are all the better if not disturbed for several successive years, like the snowdrop, &c. They do not answer in pots, as far as my experience goes. Some of the newer varieties are exceedingly fine, having yellow, blue, and white flowers of a large size. Erythronium giganteum is an American species, with tall stems, bearing bunches of yellow flowers.

SAXIFRAGA GRANULATA.

This plant can scarcely be classed in the category of bulbs, yet it is a bulb, and so diminutive as to compare to grains of wheat, hence its name, 'Saxifraga granulata,' or grain-rooted. It is a marvel that so small a bulb should produce so large a flower, equal in size to a fine, double white ten-week stock, of a foot or less high. I know of no plant better adapted to either pot work or small beds, or edgings to large beds. The roots must not be moved often, but allowed to remain for several successive years undisturbed. The grain-like bulbs live near the surface, and will naturally become quite bare. Once a year, in the early spring or autumn, top-dress the roots with half an inch of fine maiden loam, sand, and leaf-mould, well mixed. The bed in which they are to be planted should be well prepared and raised a little above the level, so as to provide a free drainage, and no loss of roots will ensue. A small bed of this lovely double white gem makes a superb show in the spring amongst dwarf squills, dog's-tooth violets, Cyclamen coum, C. Europæum rubrum, or others of this tribe, which are hardy enough, except C. Persicum and its varieties. Saxifraga granulata is well adapted for edgings to some of the taller kinds of plants; also in alternate patches in front of a border, with others of a like nature. As a pot plant, it is fine for house decoration. In potting be careful to provide good drainage by putting a layer of rough stuff over the crocks at the bottom; then fill the pot up (which may be a five or six-inch) with compost of a similar kind to that named for top-dressing for them, only do not sift it too fine. The compost is better not sifted at all, but chopped fine with the spade. Mixing the maiden loam, sand, and leaf-mould, or old rotten manure, all together, fill up the pot with this compost to within an inch of the rim, and make the surface moderately firm and even, then place six or seven bulbs on it, and cover them with half an inch or three-quarters of an inch of the same soil, a little finer; place them in a cold frame or out of doors, until they are up (unless sharp frost sets in, when the pots must be protected), then set them in the greenhouse or window. Give no water to the fresh potted bulbs until they are nearly dry, but after they begin to grow water must be liberally given until the flowering is over, when they may be set out of doors, and only watered sufficiently to preserve the roots in a healthy state until the leaves die off, when the pots may be placed in a shady spot, and turned on their sides in very wet weather; here they may remain until they are wanted the following season.

THE CYCLAMEN.

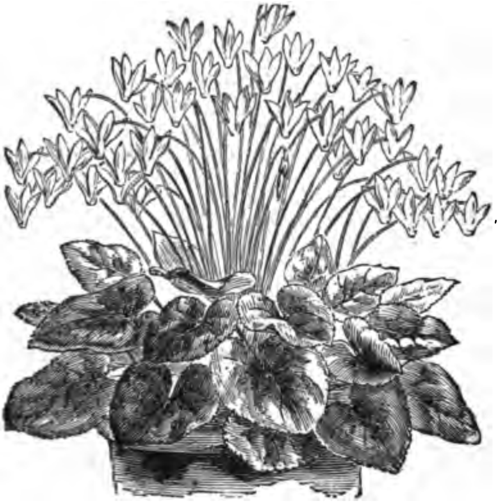


Fig. 18.

CYCLAMEN PERSICUM.

The Cyclamen is well known and is a great favourite. It is hardy, beautiful, and well suited to both pot work and for the ground; and although it is easy of culture, I feel it will not be out of place to offer some plain remarks on the treatment of this favourite plant.

RAISING THE CYCLAMEN FROM SEED.

The seed may be sown in the month of January, or early in February, in pans filled with one part maiden loam, one part leaf-mould, or old pulverised manure, and one part sandy peat, well mixed and run through a quarter-inch mesh sieve. Place pieces of flat potsherd over the holes in the pan, then put in a layer of siftings from the same compost, half filling it; then fill the pan up with the compost to within half an inch, press the soil down firmly, make it even, and sow the seed moderately thick—a shilling packet will sow two pans; cover the seed half an inch with the same kind of soil, sifted fine, and a little silver sand added to it. Place the pans in a pit or frame containing a lively heat. The seed will come up slowly, but surely, if good at all, remembering to keep it moderately moist, but not supersaturated with water. As soon as the seedlings are fairly up, the pans may be removed to a lower temperature—the shady part of a warm house, cucumber, melon, or grape house—and from thence, in course of a month, to a common greenhouse. It will be the month of May by this time, and the seedlings will be strong enough to prick off into other pans; continue them for a few weeks longer in a house, and by the month of July they may be planted out on a nicely prepared bed under a north wall. The bed should be made first with a 6-inch layer of half-rotten stable dung, or, what is better, horse-droppings swept up from the road, sand and all with it. Make this layer firm by treading it, and beat it with the back of the spade. On this layer of dung put a 2-inch top layer of fine maiden loam, and leaf-mould, and some sand, well mixed; make it smooth and firm with the back of the spade. On this prick out the seedlings, two inches apart in lines four inches asunder, across the bed. In doing this, be careful not to plant the bulbs much under the surface, but close the roots firmly below, and give them a good soaking with water, to settle the soil well about the fresh planted young bulbs. Here they will flourish, and may remain until the month of October, when they may be taken up carefully with balls, put into 4-inch pots (large 60's), and place in a house where a little heat is kept, and nice little handsome plants in flower will be had with very little trouble.

The cyclamen will live to a great age, and grow to a large size. The larger the bulb the more numerous the flowers, provided care is taken to preserve the crown from injury, for if the crown is damaged it is all over with the bulb—no more flowers must be looked for from such a bulb, nor is it of any use after.

New sorts of cyclamen may be raised from seed by hybridisation, selecting the finest flowers to bear seed. In potting cyclamen bulbs be careful never to bury the bulb in the soil more than half way, less is better.

THE CYCLAMEN IN BEDS, ETC.

Most of the cyclamens do well in small beds and for edgings, especially in the mild western counties. In the colder counties of the north a slight protection will be required in winter; but in the western and southern counties no protection will be necessary, except during a protracted hard frost, which seldom takes place. The beds for the cyclamen should be well drained, and made with rough maiden loam and leaf-mould, or rotten dung, in equal parts. The bulbs should be planted during the month of February, in the northern counties, and in the autumn in the western and southern counties. The cyclamen is very partial to shade. C. Coum is an early red flowering species, and there is a white one of the same class. C. hederæfolium is a remarkably handsome-leaved plant; the bulbs will grow to an enormous size, and produce an extraordinary number of flowers on a single plant. There are white and red of this species. Cyclamens are among the best flowers to be had for cut blooms. Good top-dressing with rotten dung, after flowering, is necessary for the cyclamen in the ground, as the roots may remain undisturbed for years. After pot cyclamens have done flowering they should be placed under a north wall for the summer.

THE CROCUS AND SNOWDROP.

Often those who purchase these bulbs complain that they do not flower at all, or not well. In the first place, generally speaking, they are not planted soon enough, and in the next place, they are not old enough to produce much (if any) flower. There are always two or three sizes of bulbs on sale, and numbered according to size and quality. Now it is evidently much the best plan to pay a price which secures the best flowering roots with certainty. The next thing is by all means to get the bulbs, both of the crocus and the snowdrop, as early in the autumn as possible, not later than Sep-

Fig. 19.
The Crocus.

tember or the beginning of October, when they should be planted without delay, for if the planting of these bulbs is deferred much later the small-sized roots will give little or no flower; and even with the best and largest roots the chances for a first-class show of flower are much less. Generally, bulb gardening proves most unsatisfactory, and nine persons out of ten get discouraged through not getting a fair return of flowers for the value of the money outlay, the chief cause of failure being late planting. The air absorbs the vital juices of the roots as they lie in dry store rooms, or exposed for sale in seed shops from week to week, so that every week after a certain time the bulbs lose much of that property which is essential to the production of good flowers; indeed, when the bulbs of crocuses and snowdrops are kept out of the ground after October, so much is lost of the flowering powers of the plants, that every week reduces the chances of any flower at all the first season, and if they do flower they do so but very poorly and very unsatisfactorily. Both crocuses and snowdrops should remain for years where they are first planted; this is the only way to grow them to perfection. They should be planted at the front of beds or borders. I know of nothing comparable, in my estimation, to a line of the different coloured crocuses, planted either in alternate patches of six bulbs each, the patches 9 inches asunder, or two rows of three colours—yellow, blue, and white—two lines of white planted thick, and two lines of each of the others, the blue in the middle; thus a splendid ribbon border may be formed along a compound border of plants, or round a bed of squills, hyacinths, or a nicely planted bed of the early flowering fragrant Daphne Mezereon. The crocus is most exquisite as a border plant during the early spring months, while some other plants, as hepatica, aconite, double lilac primrose, Phlox verna, Aubrietia purpurea, and Echeveria glauca, may be planted between or in front, to succeed them in flower, thus forming a continuous gay bordering to all classes of flower beds, as well as to beds in the Garden of Bulbs. No garden should be without snowdrops and crocuses, nor need any one buy them but once if they will make up their minds where to plant them for a permanency. They are not particular as to soil or situation.

THE ORNITHOGALUM.

THE old 'Star of Bethlehem' used to be a favourite of our gardens, not for its particular beauty, although it is a bright-looking flower, but perhaps on account of the tradition relating to the bright 'Star of Bethlehem' of the Messiah. It certainly is a bright, thin, star-like, umbellated, white flower, and would make a very pretty spring bed. But some of the frame species eclipse almost all other half-hardy bulbous plants; O. arabicum, for instance, is nearly equal to the Eucharis in beauty. The plant is not of the same character in foliage as the Eucharis, but the flowers themselves might be easily substituted for the individual flowers of that splendid plant. The bulbs of O. arabicum are not unlike a very fine, solid, hyacinth bulb. This variety, and many more of this tribe, come from warm climates—Egypt, Cape of Good Hope, South of Europe, &c. This Arabian species is hardy enough to stand our climate in the open ground, with a slight protection during severe frost, such as a covering of 7 or 8 inches with

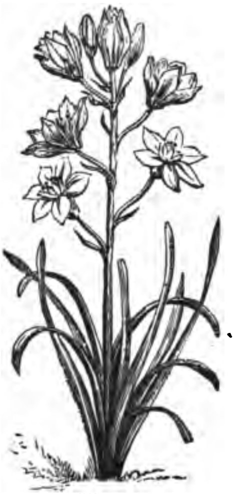


Fig. 20.
THE ORNITHOGALUM UMBELLATUM.

saw-dust, cocoa-nut fibre refuse, old tan, etc. The bulbs should be planted on a good border, or in a bed, sheltered from the cutting high winds. As a pot-plant it is fine. The bulbs may be planted three in a 7 or 8-inch pot, not less than 2 inches under the surface. The soil may be good peat, dung and sand, or maiden loam, leaf-mould, and sand, equal parts. They may be treated like pot hyacinths, except that they should be plunged in a cold frame if the bulbs are imported. They should be potted during the month of September and not later than November. As soon as the bulbs have made growth two inches above the soil place them in a house, or in a frame, giving them the benefit of all the air and light possible, or else the plants will become drawn. The peat I refer to above is of the best quality. (See 'Soils,' &c., p. 6.)

THE CALLA ÆTHIOPICA,

COMMONLY CALLED ARUM, OR LILY OF THE NILE.

I MERELY mention the names used for this plant to avoid confusion, remembering that it is not a lily at all, for the lilies possess six stamens and one style, and belong to the Linnæan class Hexandria Monogynia, while the arums belong to that class whose flowers bear male organs in one flower and female organs in another on the same plant. The Calla Æthiopica is the best of all the Arums; many of them are worth but little, some of them are most curious, and some even ugly. A. crinitum, for instance, when in flower is most repulsive to some people, but those who like curious things in nature may fancy this plant. I know of nothing that can be better compared to this flower than a pig's ear, for the inside is of a flesh colour with hairs, and the coloured part of the flower presents a most repulsive appearance. The flower of this variety is very large; the species are hardy, and may be grown in a border. C. Æthiopica has a noble white flower, and may be grown in pots, or as a sub-aquatic, out of doors. In the western and southern counties it may be grown safely by streams, in canals, ponds, and round fountains, planted at the edges 6 or 9 inches under the surface of the water, and in the spring it will throw up its lovely white flowers above the water to perfection, and present a most charming appearance. This plant should have abundance of water at all times; when it is grown in pots, the pots should be not less than 8-inch; just a piece of crock put in the bottom, and the roots potted in maiden loam and peat. As the plant commences to throw up its scape give it some liquid manure—sheep's droppings put into a tub is about the best that can be used for them. The callas may be propagated easily by offsets at any time.

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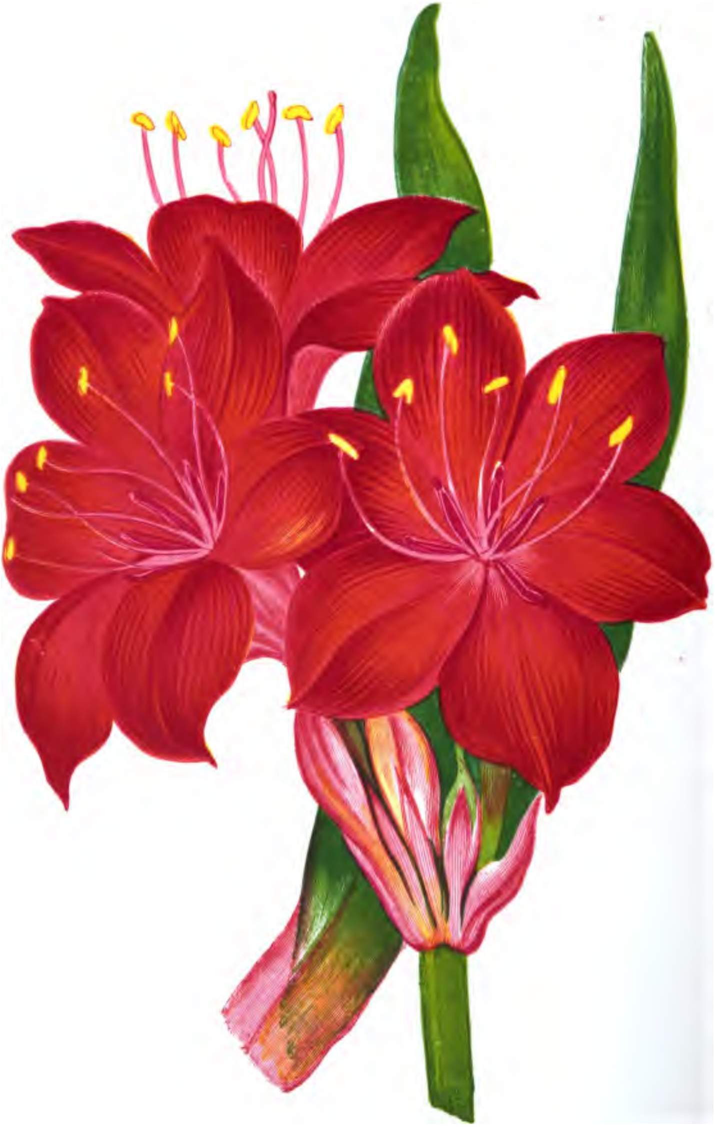

AMARYLLIS PURPUREA.—VALLOTTA PURPUREA.

THE AMARYLLIS.

Many of the Amaryllis may be grown in beds in sheltered places, and with some protection during winter. The Guernsey and Belladonna lilies are amaryllids. These may be grown in our common gardens without trouble, but Crinum capense, C. longiflorum, C. flaccidum, and many more of this class may be grown in the open ground with a very little trouble, merely affording the bulbs a weather-proof covering in the winter, such as I recommended for ixias (page 68), with 9 inches of cocoa-nut fibre refuse, cinder ash, or old tan over the bulbs during sharp frosts, removing this as soon as the danger of frost is over. The Hemerocallis is another species of amaryllis that does well in any common garden, and they are all lovely subjects, suited to our gardens. H. disticha, H. flava, H. fulva foliis variegatis, H. Kwanso flore pleno, and Sieboldii are all beautiful and fine varieties, and if well planted

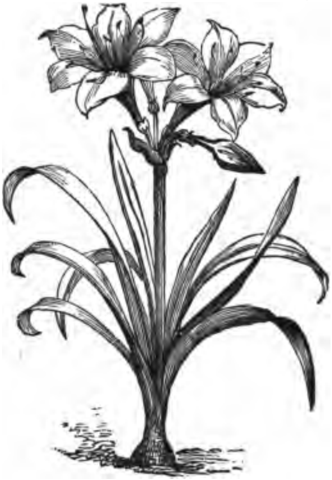

Fig. 21.
Amaryllis purpurea.

will form magnificent beds. The beds for all the amaryllis should be well made and well drained. The soil should consist of maiden loam and sandy peat, in equal parts; or loam, leaf-mould and sand, in equal parts. When a bed of the superior amaryllis, as the crinums, &c., is to be planted, the bed should be made with the above compost one foot six inches deep, first of all putting one foot of rough turfy peat at the bottom to ensure good drainage, then the 18 inches of good soil on the top The bulbs may be planted in the month of March, or April; give no water until growth commences, and as they advance in growth give water liberally, withholding it altogether after the flowering is over, and as soon as the autumn rains begin to fall place the mats over the bed as directed for ixias, etc., and when the leaves of the plants die down, put the covering of old tan, cocoa-nut fibre refuse, or whatever you have for the purpose, over the bulbs, to protect them from frost.

THE PROPAGATION OF THE AMARYLLIS.

By offsets and by seed the amaryllids are multiplied. The former is done when the plants have matured their growth, in the autumn, or in the early spring. New sorts are raised from seed. The seed should be sown in pots or seed-pans in spring, and set in a moderate heat until up. The seedlings should be pricked out into other pots or pans as soon as they can be fairly handled, and treated as mature bulbs after. All the amaryllids are suitable for the conservatory, and some for the stove, in which fine specimens may be grown. A. Brunsvigia coranica and Josephinæ are giant varieties, with a grand umbel of rose and crimson flowers on a large stem. A. Vallota sanguinea is a fine, hardy sort, remarkably suited for window culture. It is of a deep red, and flowers freely. Whenever amaryllids are grown in pots, water should be very sparingly given during their dormant state, i.e. when they are not actually throwing up flower stems or leaves, and in the dull winter months give no water at all, except the plants are with other stove plants in a warm house.

THE FRITILLARIA.

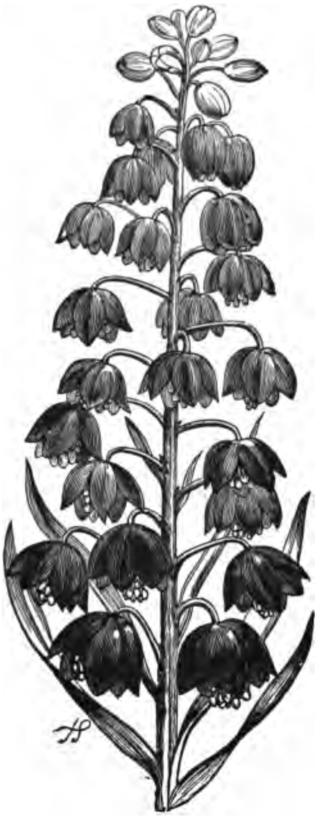

Fig. 22.
Fritillaria persica.

These hardy bulbs take their name from *fritillus*, a chessboard; referring to the chequered flowers of some of the species. They are not all chequered, amongst these are meleagroides and græcia. The old and grand Crown Imperial is one of this tribe, and is a well-known hardy border plant of easy culture. The minor varieties of fritillaria are beautiful, and curious too, varying in colour from white to a dark purple scarcely distinguishable from black, and black flowers are a rarity. I can scarcely conceive anything more curious or beautiful than a bed containing a collection of these graceful plants. They may be grown in any good ordinary garden soil, where they should remain for some few years undisturbed.

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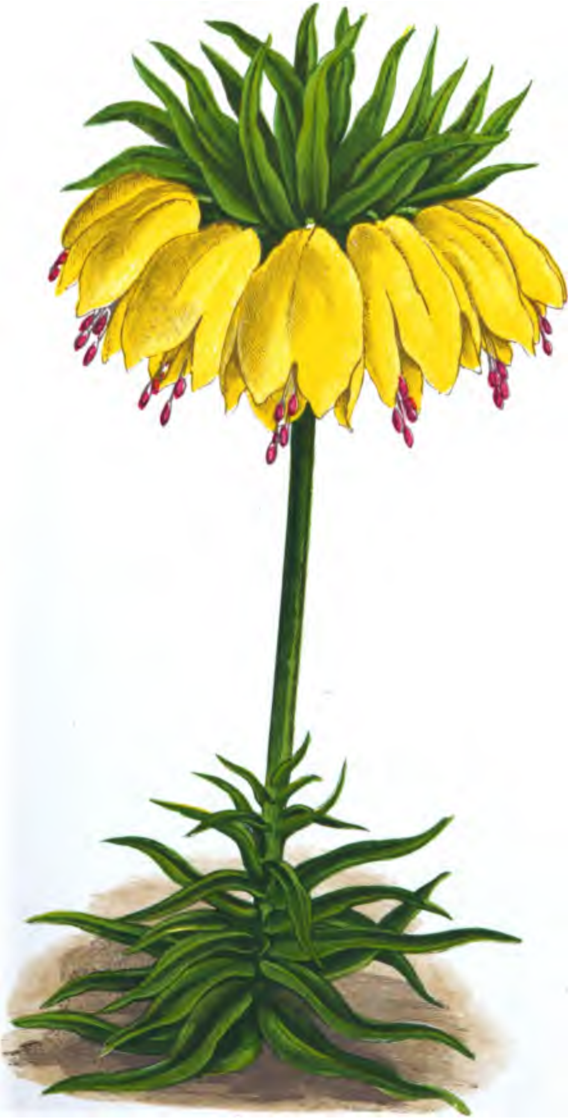

CROWN IMPERIAL.

Plant in the months of September and October, in soil consisting of maiden loam, sand, and dung or leaf-mould. Plant the bulbs six inches asunder, and not less than three inches deep. They may be propagated by offsets and by seed when it can be had. As the fritillarias have a close affinity with the Lily tribe, it would, no doubt, well repay the trouble incurred in hybridising with some of our lilies.

THE FRITILLARIAS IN POTS.

These form the prettiest objects possible in pots. Use the same kind of compost as mentioned before, and put three bulbs in a 48-sized pot, five inches diameter; set the pots in a cold frame, or they may be plunged in cinder ashes, tan, &c., as for hyacinths, until they make some roots, when the pots should be placed in a cold frame or common greenhouse. If the bulbs are imported, do not give them water for a week or two after potting them; let the bulbs absorb moisture gradually from the soil for a time, then give water sparingly at first, and as the bulbs begin to put forth leaves water may be freely given.

THE HELLEBORUS.

The Hellebores, though not particularly striking or handsome, with the exception of some of the coloured varieties, as H. atrorubens, H. colchicus (red), H. guttatus (white, with red spots), and H. odorus (greenish-white, sweet-scented), and some new varieties raised from seed, are well worth a place in every good garden. The leaf of the hellebore is remarkably handsome, and of a dark green. The Helleborus niger and its varieties are much in request for their early flowering. It is called the 'Christmas Rose,' as it bears a slight resemblance to the single dog-rose of our hedges, and on account of its coming into flower about Christmas-tide; and now that we have a 'flower religion,' early flowers of all sorts, especially white, are much in request, and the fact of these hellebores coming into flower so early enhances their value.

The cultivation of the hellebore is most simple. Choose a warm, sheltered spot in the garden, and plant as many roots as you require; one large root will give from twenty to fifty flowers, according to the strength of the plant, and the situation and soil, etc. The soil best suited for them is one of a tender, sandy loam, of the depth of 15 or 18 inches at the least. If the staple soil is not deep and moist, the plants will do no good—they will pine away in a poor, dry soil; while, on the contrary, if the soil is good they will flourish and continue to do so, and give increase of flowers for years. Strong plants are difficult to get. They should be planted during the months of October and November.

THE HELLEBORE IN POTS.

It is of little use to pot small roots. It is far the best plan to make large plantations at once, and let the roots remain undisturbed for three or four years; from this plantation as many plants may be potted year by year as required: for if 100 small or moderate sized roots are planted, then 25 strong roots may be drawn from these at the end of three years, and 25 the following season for forcing; then the first 25 can be replanted whence they were taken, where they will grow and recover themselves, and become again fit for forcing by the time the last 25 have been forced. This plan will provide strong clumps of hellebore plants year by year. For cut flowers for market, a plan similar to this is much better than purchasing trade plants year by year, which are generally too small and weak to give much flower. Nice small plants for the purpose of making such plantations can be had for about 15*s.* to 20*s.* per 100, but they are not fit for good forcing plants. Good, strong, flowering roots from a plantation such as I have described will require pots not less than 9 inches diameter. Put a crock or two at the bottom of the pot first, a few handfuls of good maiden loam, and then in with the plant entire, as it is lifted from the ground, with a ball of earth, filling well in round the pot with a stick. Keep the crown of the plant below the surface, and well soak it with water, and then place it in a pit, frame, or house. The hellebores are propagated by offsets, or division of the roots, and by seed. There are several varieties of the Niger class. The word *niger* (black) refers to the colour of the root, which does not apply to all the varieties in this class, but to a Chinese variety, and the veratrums, with which I find the hellebores are confounded.

THE TUBEROSE.

The Tuberose is a half-hardy bulbous plant, possessing a perfume partaking of the fragrance of the rose with the delicacy of the violet. There is no plant of a similar size which possesses so much perfume; one good one being enough for a room, and very sensitive persons say one is too much. Apart from the delicious fragrance of this flower, it is handsome, and may be compared to a lovely miniature white lily, with a tint of rose in the petals. The foliage of the plant is ample and similar to the Agapanthus, only not so broad. Tuberoses are always imported from Holland or America, but I see no reason why we should depend upon this means of supply, as, in my opinion, they can be multiplied and grown here quite as well. All they want is a start in the early spring in a heated pit, and abundance of water, and they are as easily multiplied by offsets as potatoes. The offsets should remain on the old stools until the plants have died off completely, and dried a bit also, when they may be separated, dried off for a week, and then potted singly into 4-inch pots, and plunged into a hotbed. A steady tank heat is the best for them, plunged in saw-dust, tan, or sand. Do not give them water until they begin to grow, when some may be given, and more freely as they advance in growth. As soon as they have filled these small pots with roots, shift the plants into 5 or

6-inch pots, searching for any spray arising from the roots as they are shifted, and removing all clean off, so as to encourage these succession bulbs on to flowering bulbs, which they will be by the following autumn if kept clean from suckers and watered freely. They should be placed in cold pits throughout the summer, and be occasionally watered with manure water. This may consist of any of the manures used for horticultural purposes, but I recommend sheep's droppings, in the same way as for tulips, etc.; this liquid manure may be given to the plants weekly up till September, when it should be discontinued, and clean water given moderately; and by the beginning of November watering must be discontinued altogether; this will bring the bulbs to ripeness, and cause them to dry off, which I find them reluctant to do naturally. As soon as dried they may be taken out of the pots, laid out to dry, thoroughly, trimmed, and laid by ready for use again. Generally, tuberoses may be started into growth about the end of December, January, and February, but not later, January being a good time.

HOW TO POT THE TUBEROSE.

When flowering bulbs of the tuberose are to be potted, first examine the rootplate, i.e. a small plate at the bottom of the bulb—on this will be found a dried crust of hard skin; remove this crust, by cutting it away with a knife to the inner bark of the root; if this is not done, some of the bulbs will fail to make roots at all. In potting the bulbs, use small 48-sized pots first, and shift them into 32-sized after they have partly filled the first pots with roots; place a crock or two in the bottom of the pot, on this place a handful or two of the potting compost, which should consist of pure peat (see page 6), or one part good maiden loam, one part decayed leaf-mould, and one part sand; settle the soil in the pot, moderately firm; then place the bulb on it, and fill in up to within half an inch of the top of the pot, and set or plunge the pots into a bottom heat of 65° or 70°. Give no water for a week or two; shift the plants from these pots, as before described; give water, and continue in heat of a milder degree till the end of May, when they may be set in a cold frame, house, or even placed out of doors in a warm place, and treated as recommended for young bulbs.

THE AGAPANTHUS.

THIS evergreen, tuberous-rooted plant is little known, and seldom seen displaying the magnitude of its capabilities. It is no doubt one of a class which is never, or scarcely ever, seen to perfection. We sometimes see it cramped up in a 9 or 11-inch pot, with one or two flowers ; but if the Agapanthus is re-potted as it fills the pots it grows in, it will soon form one of the grandest flowering plants possible to see. When A. umbellatus is grown in 24-inch pots, or tubs, there are few, if any, plants so well deserving a place on a terrace, or in some conspicuous place in front of the mansion. They will continue for a long time in bloom, displaying numerous heads of fine, lively, blue and white flowers. I prefer the blue, as it is of a most lovely shade. The umbels, or heads, of this variety are of an immense size on strong plants ; and if strong liquid manure is given to the plants once a week, from April till the end of July, a succession of flower-stems will continue to be thrown up till late in the season. The soil for these plants should consist of maiden loam and peat, two parts of the former, and one part of the latter, with sand. They may be set in a cold pit, or frame, or a greenhouse in winter, but will do well out of doors from May till the end of October. In the west of England they will live in a sheltered place out of doors all the winter. I have some now (1878) that have stood outside all the winter. The agapanthus may be propagated by offsets and by seed.

THE DIELYTRA.

There are two divisions of this tribe, and they may easily be confounded the one with the other. Dielytra and Corydalis are of the same class and order, and are much alike; but the corydalis differs from dielytra, the former possessing a spur to the flower, while the latter does not. Both corydalis and dielytra are beautiful classes, but Dielytra spectabilis and D. chrysantha are exquisite plants, both are remarkably fine flowering, and most useful pot and border plants of great beauty. As pot plants for forcing, I know of nothing that can excel them, both for their early flowering and the ease with which they can be grown. They are very graceful, the flowers hanging in regular racemes of the most beautiful form. They are handsome in foliage, and of a fleshy, tuberous-rooted nature, similar to a dahlia. The ground should be of a moderately dry nature, and contain sand; in this they will live and do well for several successive years without much trouble. As bedding plants nothing can surpass them, as a succession of young plants may always be had by striking cuttings from the side shoots in heat. This plant may be grown for a season in the open ground, and in the month of November taken up, ball entire, and potted in suitable pots of peat, maiden loam, leaf-mould, and sand, and set at once in a forcing house, when abundant flower and foliage will be produced.

THE ANOMATHECA.

A. **CRUENTA** is a splendid, bulbous Cape of Good Hope plant, fitted for either pot work or the ground. This variety, as the name implies, is of a deep red, or blood colour, with leaves similar to the ixia—a narrow flag. The flowers are similar too, but smaller than in some of the ixias—shorter in the petals. I know of few bulbous plants that make a richer display than this ruby-coloured plant, when planted thickly in good soil in a small bed. The soil should be sandy peat, and some good maiden loam, made fine. The bulbs, which are small, should be planted in the early spring, and not more than three inches asunder every way, and three inches deep. As the bulbs are not hardy, it is necessary to take them up every autumn after they have done flowering, dry them, and preserve them as ranunculus, anemones, &c. They continue long in flower, and, by giving them some liquid manure, the flowering may be prolonged. They are propagated by seed and offsets. The seed should be sown in deep seed-pans, covered half an inch with a fine compost of the same kind as named above, and set on heat, until well above ground; then set in a cold pit or frame, to harden off, and finally planted out. They are well adapted for pot culture, using small, 48-sized pots, and the same kind of soil as above; put three bulbs in each pot, and set the pots in a cold frame.

THE TRITOMA.

These noble flowering hardy Cape bulbs are mostly red or yellow; the spike of flowers is of a close and compact form, on a tall stout scape of one foot six inches high; the colour being bright red with a vivid yellow has a very singular effect at a little distance, the flower resembling a 'red-hot poker,' which it is sometimes called. They are fine border or bedding bulbs, flowering in the autumn months. T. uvaria, or grandiflora, is a fine subject for planting in lines at the back of borders planted with Amaryllis sarniensis, Vallota purpurea, Belladonna lilies, etc., all of which flower about the same time, all together forming a grand display. They are all hardy, and may remain in the ground from year to year. A large bed of these would form a grand effect, filling the centre with tritomas, and the others making up the front, with a facing of *Sternbergia lutea*, a dwarf, autumn-flowering, yellow amaryllis. The tritomas may be grown in the ordinary common garden soil, but when planted with the amaryllis the addition of sandy peat will be beneficial, in the proportion of one-half, and a good 6-inch dressing with leaf-mould, well decayed, and dug into the bed. (See 'Amaryllis,' page 94.) The tritomas make fine pot plants. They should be potted three good bulbs in a 9-inch pot, and as soon as the flower-scapes are at their natural height give them a weekly watering with sheep's dung liquid manure till in full flower, and extra fine specimens will be the result. They may be propagated by seed and by offsets. The bulbs are moderate in price, 4*s.* and 6*s.* per dozen is about the price of good ones; but as they may be raised from seed, abundance may be had in course of a little time. Sow the seed moderately thin in deep seed-pans, and set on a gentle heat till up, harden off, and plant out the seedlings into fine soil.

THE OXALIS.

There are few plants that make so much display on a sunny day as the Oxalis. They are of many shades of colour, from purple to white, but O. floribunda, white and purple, is no doubt the most showy hardy variety to be found among the whole, and blooms all the summer in a half shady place. The oxalis is rather fond of a partial shade for good foliage, but the flowers require the sun to expand them. This is somewhat difficult to arrange, but a small bed, where a standard rose carries a good head and a clean stem, is a suitable place, as it provides a partial shade. Some of them are well suited for rock-work. O. tropæloides, is a remarkably fine kind for this purpose; it is a trailer, and of a peculiar, dark, bronzy-green foliage, which contrasts well with the rock-work; the flowers are yellow. They require abundance of water when growing, but none when dormant. I have grown floribunda luxuriantly in pots and in the ground; it may be kept well in a frame anywhere, and even in the open ground all winter in the west, and even in the colder counties it may remain in the ground if planted on a dry subsoil and protected through the winter. Many of the varieties are quite hardy, but those named require protection during hard frosts, but they do not like heat, especially a dry heat. There are three divisions of Oxalis, namely, annual, perennial, and bulbous. All may be propagated by seed, and the bulbous by offsets as well as seed; the herbaceous by seeds, cuttings, and division of the roots. The seeds should be sown in the spring, in pans or pots filled with sandy loam, peat and leaf-mould made fine, and set on a slight heat, and shaded from the sun, and when large enough to handle must be pricked off into other pans or pots, until at last they may be potted singly into 3-inch pots; and if they are to be grown in pots, provide good drainage, but when they are for the ground the plants may be left in these small pots and kept well watered, and finally turned out by the end of May. The cuttings will strike freely under glass on a gentle heat in a shady place. The juice of the leaves of our common wood-sorrel—Oxalis corniculata—is a very agreeable acid, and if the leaves are picked and eaten in the spring by those troubled with scorbutic complaints, much benefit may be derived.

THE WINTER ACONITE.

It seems almost superfluous to write about this common little hardy bulbous plant; but as it is not often cultivated, and being the very first spring flower we get, and being useful for many purposes, I recommend the lover of early flowers to grow it. The colour being bright yellow may not be a favourable recommendation, but in some counties any flower coming so early as January, let the weather be what it may, is hailed with joy, especially when a lady can sit at her window, and, not being strong enough to venture out on account of the cold, may see this little harbinger of spring, with its bright yellow flowers, in some small pretty beds, or in closely planted edgings around other succeeding spring flowers, as the snowdrop or crocus, cheering the gloom of winter, or gladdening the heart of the invalid, for many weeks. Ah! pretty little flower, let no one ever despise thee on account of thy smallness or colour; thou hast a voice like the rose or the lily, or the less gay songster among the feathered tribes: telling us of a bright summer coming, a time when the prisoner of hope will again emerge from her room and enjoy the softness of a May day, and participate in the luxury of a free air laden with the fragrance of succeeding generations foretold by my little aconite.

The culture of the aconite is of the simplest kind; it is not particular as to soil or situation, and any common garden soil will suit it. It should be planted not more than three inches asunder, and may remain undisturbed for years. It forms pretty edgings to other beds, or it may be planted along a border, six roots in a clump, alternating with snowdrops, crocus, etc. In no case let the roots remain out of the ground long.

THE LYCHNIS FULGENS.

THE Lychnis fulgens is a brilliant scarlet-flowering tuberous-rooted bulb. It grows about 8 or 9 inches high, not more, and bears a fascicle of bright flowers, each as large as an old penny-piece, quite flat, and toothed in each petal. The roots are not tender, and will stand all the winter in the ground if the soil is of a light, porous nature, with a dry subsoil. The grub and slug are fond of the roots, and must be guarded against during the dormant state of the plant, as often in the early spring they will eat out the crowns. The Lychnis fulgens makes a very brilliant bed, nor is it of much use attempting to grow it in any other way, except in pots, for if the roots are planted in mixed borders they are sure to be destroyed one way or another; a small bed planted thickly is the best plan; the soil should consist of maiden loam, leaf-mould, and sand, in equal parts. The roots should be planted 4 inches apart each way, then the flowers will fill the bed; but if the roots are put into a bed 6 or 9 inches asunder, the bed will be a failure, and probably the plant will be abandoned as a poor thing. I have no doubt this is the reason why we never see a bed of it. There are now numerous hybrids of this variety, some of which are most beautiful in colour. They may be raised from seed sown in spring, and then planted out as described; if sown in March on a gentle heat they will flower the following autumn.

THE ALSTRÖMERIA.

Among individual flowers of choice, rare, and hardy plants, there are none more beautiful than the Alströmerias. They are of rich colours, from white to crimson. They are hardy, easy to grow, and make fine beds when well managed. Some varieties are most exquisite in the markings of the flowers, and are useful for cutting for table vases. They should be planted in the spring, about 6 or 9 inches apart, in a bed by themselves, where they can remain undisturbed. The soil should be friable (tender) loam one third, peat one third, and old decayed leaf-mould one third, with a good portion of sand. The peat should contain sand enough if of the right sort (see 'Peat, Soils, &c.' page 6). They require abundance of water during the growing season, and must be tied up to sticks as soon as the flower-stems begin to rise. They are propagated by offsets and by seed. The seed is very hard, and should be soaked in warm water for some hours before sowing. It must be sown in deep seed-pans, covered three-quarters of an inch or one inch with soil, and set on a hotbed. Sow the seed in February or the beginning of March, and plant the seedlings out in May, in beds of finely prepared soil, as above. The Alströmerias may be grown in pots, but as a rule they do much better in permanent beds. There are some varieties that will not answer so well out of doors, but should be grown in 8-inch pots in a greenhouse, etc., as Pelegrina, Oculata, Tricolor, etc.; but Aurea, Chinensis, Psittacina, etc., may be planted in beds, and will do well.

THE BEGONIA.

This tribe belongs to the Linn. order Monœcia—i.e. having two classes of flowers on the same plant. Some of them are not bulbous-rooted, but those that are may be grown either in pots or in beds, in a sheltered spot, where, if properly managed, they will produce an effect surpassing scarlet geraniums. The varieties of Sedenii form magnificent bedding plants with their rosy-scarlet, graceful, and abundant flowers. They are easily managed, and may be propagated by cuttings, and by taking the short shoots off the crown of the bulb in the spring, and planting in thumb pots placed in a gentle heat. The cuttings will strike freely at any time. They may be raised also from seed, sown on the surface of seed-pans, filled with one part leaf-mould, one part maiden loam, and one part silver sand; sift the whole, fill the pot or pan, make the surface smooth, and sow the seed evenly over it, and slightly cover with fine soil. Place a square of flat glass or a bell-glass over the pan until the seed is up, when air must be admitted. Water sparingly with a dewpot, or a very fine rose waterpot, and allow it to dry off before the glass is placed on again, otherwise the young seedlings will damp off. The seedlings must be pricked off three or four into a 3-inch pot at first, and finally one in a pot, and shift as required until they are bedded out. The soil should consist of peat, leaf-mould, and good soil, in a moderately rough state, not sifted. The plants, if strong, will require a space of 15 or 18 inches for each; if only one year old, then one foot asunder may do. The end of May is soon enough to put them out. In pots, all the varieties and species do well, and are excellent for dining-room decoration, for every style of ornamentation, and for all classes of glasshouses; but little water must be given any of them during the winter, and the bulbous kinds must have none after they cease growing until the spring, or the time comes for starting them into growth, which must be done in a little heat; give very little water at first, and more as they advance in growth. The bulbs must be taken up from the bed as soon as there is danger of frost, and dried off, and kept in dry sand till planting time comes again, or at least till the time comes to start the bulbs in heat. All the species will be much benefited by a fortnightly watering with liquid manure during the growing season.

ON THE DISEASES OF BULBS.

LIKE other plants, bulbous plants are, with few exceptions, subject more or less to disease. These exceptions being such as possess some peculiar feature of their own which seems almost to defy the ordinary influences affecting plants. The Narcissus family are among those that are seldom or ever affected by disease or the attacks of insects; generally speaking, the bulbs that are solid, and of an oblong shape, are better able to resist disease than those of a less solid form. The Tulip, for instance, is very liable to canker, and also to be eaten by slugs and grubs; but I find the Tulip especially liable to canker when the soil does not suit it, i.e. when it contains sand of an impure kind, containing mundic, iron, or tin, etc.

THE RANUNCULUS is liable to dry rot if planted late and the ground is not firm; it is also liable to the attacks of mice, which will eat the crown clean out, while in a dry state.

THE ANEMONE is liable to rot and become hollow when the root gets large, and it is also liable to mildew. The remedy for mildew is to use sea-sand in the soil; and to avoid hollow roots, break the large roots up into single crowns.

THE IRIS is very liable to dry rot in the dormant state, and will never keep long out of the ground.

THE TIGRIDIA is of the same nature as the Iris, but will keep better in the dry state.

THE GLADIOLUS is not liable to any particular disease, but will pine away in poor ground.

THE LILY is liable to dry rot if kept out of the ground for long. It is also liable to perish from a supersaturated state of the subsoil, and to pine away in an unsuitable soil.

THE PÆONIA will sometimes decay in the crown, otherwise it is pretty free from disease.

THE HYACINTH is liable to rot in the crown when old, and the bulb becomes flat instead of prominent, and of an oblong shape. It is also liable to become case-hardened at the root-plate, when it will not emit roots freely.

THE SQUILL is liable to pine away from frequent removals, especially the tender kinds.

THE LILY-OF-THE-VALLEY is sometimes found to be decayed in the crown, arising from drought after first being planted.

THE DOG'S-TOOTH VIOLET will pine away if frequently shifted and kept too dry.

THE CROCUS is subject to dry rot if kept out of the ground long, and is also liable to be eaten by mice.

THE ACONITE is liable to dry rot if kept out of the ground long, unless the roots are placed in damp sand or moss.

THE SNOWDROP is eaten by slugs, and will pine away from frequent removals, and planting in poor soils.

THE CYCLAMEN is liable to get the crown injured or destroyed, when the plant is of no further use.

THE CALLA ÆTHIOPICA is liable to pine away from want of sufficient water.

THE ORNITHOGALUM will rot if frost-bitten in the root.

THE FRITILLARIA is of the Lily class, and is liable to suffer from the same diseases.

THE HELLEBORES are liable to rot if kept too dry, and to perish from repeated removals.

THE TUBEROSE is liable to a case-hardening of the root-plate, and will suffer from a want of water.

THE AGAPANTHUS, being aquatic, or nearly so, is liable to suffer from a want of water, and will turn yellow at the ends of the leaves in consequence.

THE DIELYTRA is liable to rot in the crown of the plant through excessive moisture.

THE OXALIS is sure to pine away at the root if kept dry, and the bulbs to rot if kept too wet during their dormant state.

THE LYCHNIS FULGENS is liable to be eaten by slugs, and to rot in the crown of the plant through excessive wet.

THE BEGONIA is liable to perish from being in a cold, damp, uncongenial soil when growing, and from damp when in the inactive state.

THE ALSTRÖMERIA is liable to rot in the crown from a stagnant state of the soil.

THE AMARYLLIS is sure to pine away if put into an uncongenial cold soil, especially the tender kinds.

The solid bulb, as the Hyacinth, Crocus, Squill, etc., will live upon its own juices some considerable time out of the ground, but neither the 'scaly bulb' nor the 'grain-rooted' will live long exposed to the influence of a drying air. These last must be kept in dry, pure sand, while in the inactive state.

It is very detrimental to disturb any of the tuber, bulb-tuber, and grain-rooted classes before the new bulbs are quite matured, which is always denoted by the foliage turning yellow, especially in the solid bulb and scaly bulb classes.

GLOSSARY OF TERMS.

It is useful, no doubt, to know why and wherefore a plant is given a name; this must be especially so to any person at all interested in botany. Many young persons, especially sharp boys, will ask, 'Why is it called so-and-so?' and how foolish a gardener feels who cannot give a definite reply. There are abundance of technical works on this very subject, but I am of opinion that every work of any reputable standing should give this information, then there would be no occasion to refer to or depend upon some more expensive work, and in some cases to wait for weeks or months for the information. In this unpretending little work I cannot profess to enumerate all the technical terms used for the names of plants, but must confine myself to those only generally applied to the bulbous class named in this book.

Tulipa, Tulip, from a Persian word, *thoulyban*, which it seems never to have changed.

Ranunculus, from *rana*, a frog. It is commonly called Crowfoot, which no doubt refers to some of the species indigenous to this country being like a crow's foot in the foliage.

Anemone, Windflower, from *anemos*, the wind; referring to the situation required to open the flowers.

Iris, from *iris*, the eye; referring to the peculiar beauty of the flowers, some of which resemble the fine markings of the eye.

Tigridia, Tiger Flower, refers to the flowers being tiger-spotted on a red or soft yellow ground. This plant is very singular in its development; on the same flower-stem many flowers will open in succession, and so rapid is the development of each flower-bud that, although no bud may appear to succeed the open flower to-day, during the evening one will appear and be ready to unfold its full beauty in the morning; each flower opens but once, and so long as there is an embryo flower a continuous succession of flowers appear day after day.

GLADIOLUS, Corn Flag, from *gladius*, a sword; referring to the shape of the leaves, which are sword-like.

LILIUM, the Lily, from the Celtic *li*, white.

PÆONIA, Peony, named after *Pæon*, a doctor.

NARCISSUS, refers to a fabulous youth, said to have been changed into this flower.

HYACINTHUS, Hyacinth, has a similar meaning to the last.

IXIA, from *ixia*, bird-lime; referring to the peculiar clammy exudation on the flowers.

SCILLA, Squill, from *skylla*, to injure; referring to the poisonous properties of the species said to kill or injure, although the juices of some sorts are used in medicine.

CONVALLARIA, Lily-of-the-Valley, from *convallis*, a valley, and *rica*, a mantle; referring to the covering of the leaves over the flower.

ERYTHRONIUM, Dog's-tooth Violet; referring to the shape of the roots. The word *Erythronium* refers to the colour of the leaves, which are reddish.

SAXIFRAGA, from *saxum*, a stone, and *frango*, to break; referring to the supposed power to cure the disease called the gravel, or stone.

ACONITUM, refers to the species being abundant in a place called *Acona*.

CROCUS, refers to some local inference no doubt given by

Theophrastus. The 'saffron' of the shops is the dried stigma of C. sativus.

GALANTHUS, Snowdrop, refers to the colour of the flower; from *gala*, milk, and *anthos*, a flower.

CYCLAMEN, refers to the shape of the root—circular.

CALLA ÆTHIOPICA (*Arum*), from *kalos*, beautiful; referring to the beauty of the flower. The word 'Arum,' from *Aron*, supposed to be an ancient Egyptian word; or *Aaron*, perhaps referring to the renowned Aaron of the Bible.

ORNITHOGALUM, refers to some of the species resembling a white bird; from *ornix*, a bird, and *gala*, milk. The Star of Bethlehem, a species of this family, is probably the type.

FRITILLARIA, from *fritillus*, a chess-board, referring to the chequered flowers of some of the species resembling a chess-board.

HELLEBORUS, from *heleim*, to kill, and *bora*, food; referring to the poisonous quality of the species, yet it is used in medicine.

AMARYLLIS, a classical name, after Virgil's 'Amaryllis.'

POLIANTHES TUBEROSA, Tuberose, from *polis*, a city, and *anthos*, a flower; referring to its general use in city decoration. 'Tuberose' refers to the flower possessing a rose scent, and the root being a tuber, or bulb.

AGAPANTHUS, from *agape*, love, and *anthos*, a flower.

ANOMATHECA, from *anomos*, singular, and *theca*, a capsule, or seed-pod.

DIELYTRA, from *dis*, two, and *elytron*, a sheath; referring to the two peculiar sepals embracing the flower, forming a sheath.

TRITOMA, from *treis*, three, and *temno*, to cut; referring to the three sharp edges of the leaves at the ends.

OXALIS, from *oxys*, acid, referring to the acid taste of the leaves.

Lychnis, from *lychnos*, a lamp; referring to the brilliancy of the flowers. L. Chalcedonica and Fulgens are types.

Begonia, after M. Begon, a French patron of botany.

Alströmeria, in honour of Baron Alströmer, a Swedish botanist.

Tuber. The Dahlia, Potato, Lychnis, Pæonia, Dielytra, etc., are true tubers.

Bulb-tuber. The Tuberose, Crocus, Hyacinth, Gladiolus, etc.

Scaly bulb. The Lily, Achimenes, Gesnerias, etc.

Grain-rooted bulb. The Saxifrage, Celandine, etc.

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